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GERMAN EDUCATIONAL EXHIBITION

ELEMENTARY AND ADVANCED EDUCATION

BERLIN
PRINTED BY W. BÜXENSTEIN
1904

GERMAN EDUCATIONAL EXHIBITION

WORLD'S FAIR ST. LOUIS 1904

Prussia – Ministerium der geistlichen, unterrichts- und medizinal-angelegenheiten.

Elementary and Advanced Education

BERLIN 1904
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The purpose of this special Catalogue is to give the visitor more than a mere enumeration of the contents of the German School Exposition. This volume is intended to guide and inform, — not only to guide through the area in which the articles exhibited are grouped in separate sections according to various points of view, but also to inform the visitors, whether belonging to the teaching profession or not, as to higher, secondary, and elementary education in Germany. This is effected, indeed, most comprehensively and thoroughly by means of works of reference in several volumes and larger special works, some of which have been presented by the publishers for the purposes of the International Exposition, others newly compiled at the instance of the Ministry of Education and placed at the visitors' disposal. In these not only are the organization of the educational establishments, their work, and their aims fully illustrated, but also exhaustive historical narratives and ample statistical material given, by authoritative representatives of all kinds and groups, including the most various branches of university education.

At the same time, however, the visitor may find it desirable and advantageous to be easily and quickly informed on the most necessary points by this brief and simple handy guide, whereby the importance and purpose of the objects presented to his contemplation are rendered clearer to him, and the picture of higher, secondary, and elementary education in Germany offered in these rooms completed. Thus, in looking at the exhibits of the various kinds of schools he learns at the same time what their peculiar nature and tendency is, what place they hold in the general organization of education,

what their development has been, how they are organized and managed, what purposes they aim at, and with what rights they dismiss their pupils.

In order to represent these various Kinds of Schools* as such both impressively and instructively, one establishment of each kind was selected as typical, and its headmaster requested to contribute the above-mentioned information to this "Special Catalogue and Guide".

The exhibited material was collected by the various establishments themselves, or even, when possible, made by persons belonging to them, and serves (a) to give a concrete representation of the External arrangements by means of plans of sites and ground-plans, photographs of the school-buildings, the buildings and grounds belonging to them, the rooms (class-rooms, rooms for drawing-classes, laboratories, cabinets for collections illustrative of natural science and physics, workshops, and halls), the open-air gymnasiums and the playgrounds, and also (b) to illustrate the Management by means of curricula, time-tables, collocations of tasks and requirements, school and house regulations, class-books, exercise-books and exercises, regulations with regard to examinations, examination-papers, pictures of pupils at work and at play, tables showing the numbers of the teachers and pupils, the attendance, etc., statistical summaries and graphic representations, annual school-reports, and writings relating to the history of particular schools.

This part of our exposition, which includes within modest limits an exhibition of German schools in foreign countries, is near the "Lecture-room", and the visitor will do best to enter it from the latter. It lies between the "Drawing and Wall-Decoration Exposition" (which is separated from it

* Gymnasium and Realgymnasium (normal and reformed systems), Boarding-School and Paedagogium, Military College, Oberrealschule, Realschule (in zweifacher Lehrverfassung), High School for Girls, Courses of Instruction for Young Ladies Corresponding to those of the Gymnasium, Training-School for Female Teachers, Training-School and Preparatory Training-School for Teachers, Intermediate School, Elementary School, Elementary School with only one Class, Establishments for the Deaf and Dumb and the Blind, Auxiliary School for Imbeciles.

by a wall with no door in it) and the rooms devoted to the "Gymnastics, School-Sport and School-Hygiene Exposition" and the "Library and Educational Appliances Exposition".

In the former, which was prepared by Professor Pallat and is explained by him in this "Guide", twelve volumes and thirty-four portfolios with drawings by pupils illustrate the courses of instruction in drawing in the various kinds of schools, while a rich collection of models shows what the newest official lists of educational appliances recommend to the schools for instruction in drawing. Besides these there are black boards of aluminium, drawing-easels of modern construction, colour-boxes and other appliances necessary for the work in the drawing-classroom, plaster-casts of old sculptures, photogravures of works by old masters, busts, modern original lithographs and other artistic wall-decorations for our schools and class-rooms, and pictures the contemplation of which is intended to educate the taste and esthetic feeling of young people rather, than to influence their intellects or enlarge their knowledge.

On the other side of the German School Exposition, near the rooms devoted to mechanics and optics, the visitor traverses in the first place the 'Gymnastics, School-Sport, and School-Hygiene Exposition', which was prepared by Professor Wickenhagen, and is treated by him in this "Guide". It contains a model of the monument of Guts Muths at Quedlinburg and a large model of a covered gymnasium, round which are grouped objects illustrative of school-sport and the modern teaching of gymnastics in German schools. It also contains a large number of pictures, books, periodicals, plans, sketches, and statistical tables, which show that in the important province of School Hygiene also zealous work is being done in Germany, and that, after the fruitful stimulating efforts of our Emperor, the physical education of our German boys and girls is not inferior to that of other civilized states. Whoever contemplates these photographs of German pupils at play, on rambles, in school-yard, field, and forest, under the shower-bath, or engaged in swimming, rowing, and many kinds of

gymnastic exercises, must recognize that, strict as our school-discipline is, a fresh, free, and joyous spirit prevails among our German youth.

Besides the literature relating to these special provinces, there is a richly supplied Library, which, excluding older publications on principle, comprises the essence of the pedagogical literature of Germany since 1892, and contains works relating to the history of schools, statistics, didactics, and methodics, publications concerning reforms in schools and in instruction, works of reference, lexicons, and other volumes from the reference-libraries of the teachers and pupils, bibliographic compilations, pedagogical periodicals, pupils' periodicals, teachers' and pupils' almanacs, and above all a large number of Class-Books now in use on all subjects of instruction and for all the kinds of schools now existing in Germany.

On the main way which separates the Drawing Exposition and that of the German Schools from the School Exposition of the German Towns (which will be treated below), and leads straight to the Exposition of Scientific Instruments (used in teaching mechanics and optics), the Physical Apparatuses and Biological Models which are used in the lessons in our schools are arranged in glass cases. Beside them we have placed other Appliances used in Mathematical, Scientific, Technical, and Elementary Instruction, Kindergarten Toys, and some Articles of School and Class-room Furniture, while a large collection of Maps and Pictures for the Lessons in Geography, History, and Languages have been hung on the walls or arranged in map-stands. Globes, reliefs, and atlases complete this collection.

On the way leading along the "Exposition of Scientific Instruments" (used in teaching mechanics and optics) the visitor's eye falls on Sculptures, Graphic Representations, Tables and Summaries of School Statistics, which are specially calculated to catch the eye, and give information concerning the development of education in Germany both in general and in detail, the pecuniary support given by the state and the communities, the number, training, and

salaries of the teachers, the attendance at the schools, the educational results, the professions chosen by the pupils, &c.

The rest of the space at disposal, which one enters through a school-gate at the west corner (an imitation of the gate of a Berlin elementary school), is occupied by the "School Exposition of the German Towns". Here the plaster models of stately school-buildings especially catch the eye, and our catalogue gives detailed information regarding their cost, their dimensions, &c. Not only the metropolis of the Empire, which is noteworthily represented here, but also other vigorous communities of Prussia, Bavaria, Saxony, Würtemberg, Hesse, and Alsace have contributed to this section.

In this School Exposition of the German Towns not a few things are illustrated to which no justice could be done elsewhere, — the school-garden, the bath, the kitchen, the workshop, the museum, the reading-room, the barrack, and the sending of children to the country for the holidays.

One thing, indeed, it was not possible to transport across the ocean to the International Exposition, and yet just this would have given the most palpable and impressive picture of German educational work and of the spirit which is now, as of old, active and alive in the German schools,— namely a class of school-boys or girls, attentive and diligent at their work, being taught and educated by one of those formers of youth who perform the duties of their responsible office in thousands with devotion and fidelity. Instead of this, however, some Lectures, illustrated, if possible, by illuminated pictures, will be delivered in the Lecture-Hall near our Exposition, and in these lectures the attempt will be made to interpret the School Exposition still more fully and graphically, and to animate the dead material of the Exposition by spoken words.

L. Bahlsen-Berlin.

Contents.

	Page
A. General Information	1
B. The Various Kinds of German Schools, represented and illustrated by the Expositions of Establishments selected as typical	6
C. The Education of Deaf-Mutes, the Blind and Idiots in the German Empire	71
D. Drawing and Artistic Wall-Decoration Exposition	85
E. Exposition for Gymnastics, School-Sport, and School-Hygiene	90
F. School Exposition from the Towns of Germany	96
G. Exposition of Educational Appliances, Class-Books, and Reference-Library	112
H. School-Furniture and Class-Room Appliances	130

A.

General Information.

At the instance of the Ministry of Ecclesiastical, Educational, and Medical Affairs in Berlin the following statistical material regarding schools, which is exhibited here, was compiled and arranged by Professor A. Petersilie of Berlin, Geheimer Regierungsrat, in the form of graphic representations, statistical tables in black-board size and octavo, and handy stitched booklets containing statistical information.

I. Fifteen Graphic Representations (Black Boards) Illustrative of Education in the German Empire or in Prussia:

A. In the German Empire:

1. Attendance at the German Universities from 1830/31 till 1902/03.
2. Attendance at all the Universities and Colleges of the German Empire from 1869 till 1902.
3. Superstructure of the instruction in foreign languages in the Reform Schools with common substructure according to the Frankfort and Altona system (Prussia 1902), and the development of these schools in the German Empire from 1891 to 1903.
4. Number, teachers, and scholars of the Public Elementary Schools and of the Private Schools pursuing the same ends as the Public Elementary Schools in the German Empire from 1891/92 till 1901/02.
5. Expenses of the maintenance etc. of the Public Elementary Schools in the German Empire from 1891/92 till 1901/02.
6. School Education possessed by the army and navy recruits in the German Empire from 1875 till 1902.

B. In Prussia:

1. Number, teachers, and scholars of the High Schools of Prussia in 1871, 1890, and 1902/03.
2. Promotion of the scholars of the Prussian High Schools from the lower to the middle and higher classes in 1903.
3. Professions chosen by the scholars who left the Prussian High Schools with the certificate of maturity from 1868 till 1902/03.
4. Numbers of lessons per week in the Prussian Gymnasiums, Realgymnasiums, and Oberrealschulen in 1903.
5. Income and expenditure of the Prussian High Schools from 1883 till 1903.
6. Number, fully employed teachers, pupils, and expenses of maintenance of the Public High Schools for Girls, and the number, fully employed teachers, and pupils of the Private High Schools for Girls in Prussia in 1891 and 1901.
7. Number, fully employed teachers, attendance, and expenses of maintenance of the Public Intermediate Schools, and the number, fully employed teachers, and attendance of the Private Intermediate Schools in Prussia in 1891 and 1901.
8. The salaries of the male and female teachers of the Public Elementary Schools of Prussia in 1896 and 1901.
9. Public Training Colleges for Elementary School Teachers in Prussia in 1870, 1892, and 1901/02.

II. Twenty-two Statistical Black Boards Illustrative of Education in the German Empire and in Prussia.

A. In the German Empire:

1. The students at the German Universities according tho their faculties from 1830/31 till 1902/03.
2. Attendance at all the Universities and Colleges of the German Empire from 1869 till 1902.
3. Public High Schools (with six and more classes) in 1902.
4. Public Elementary Schools in 1891/92 and 1901/02.
5. School Education possessed by the army and navy recruits from 1875/76 till 1901/02.

B. In Prussia:

1. Attendance at the Prussian Universities from 1868/69 till 1902/03.
2. Expenses of the Prussian Universities from 1868 till 1902.

3. Number, teachers, and pupils of the High Schools from 1871 till 1902 03.
4. Distribution of the pupils of the High Schools in the different classes in 1903.
5. Professions chosen by pupils who left High Schools with the certificate of maturity from 1868 till 1902 03.
6. Expenses of the High Schools from 1871 till 1902.
7. Number, fully employed teachers, pupils, and expenses of maintenance of Public High Schools for Girls in 1891 and 1901.
8. Number, fully employed teachers, pupils, etc. of the Public Intermediate Schools for Boys (including Intermediate Schools for Both Sexes) in 1891 and 1901.
9. Number, fully employed teachers, pupils, etc. of the Public Intermediate Schools for Girls (not including the Intermediate Schools for Both Sexes) in 1891 and 1901.
10. Number, classes, fully employed teachers, and pupils of the Public Elementary Schools in 1871, 1891, and 1901.
11. Expenses of the maintenance of the Public Elementary Schools in 1871, 1891, and 1901.
12. Salaries of the male and female teachers of the Public Elementary Schools from 1886 till 1901.
13. Private Schools pursuing the same ends as the Public Elementary and Intermediate Schools in 1901.
14. Compulsory School Attendance in 1871, 1891, and 1901.
15. Public Training Colleges for Elementary School Teachers in 1870, 1892, and 1901/02.
16. The entire system of lower and middle schools in 1891 and 1901 (schools and scholars).

III. Twenty-five Statistical Tables in Octavo, Illustrative of Education in the German Empire and in Prussia (printed in a large edition and to be given to persons interested).

Twenty-two of these tables (in octavo) are the same as those under II. A. and II. B.; the other three (also in octavo) have reference to Prussian schools: —

1. Total duration of the course of instruction and the teaching of foreign languages in the Public High Schools for Girls in 1901.
2. Private High Schools for Girls in 1901.

3. Total duration of the course of instruction and the teaching of foreign languages in the Public Intermediate Schools in 1901.

IV. Statistical Information concerning the Universities, Colleges, and Schools of the German Empire and Prussia in Stitched Sexto-decimos, printed in large numbers for distribution to educationists and teachers. The contents of these booklets are the same as those of the twenty-five statistical tables in octavo, but are printed both in German and in English.

Two School-Maps of the German Empire,

made for the St. Louis International Exposition at the instance of the Royal Prussian Ministry of Educational etc. Affairs, in the lithographic establishment of Dietrich Reimer (Ernst Vohsen), Printing-House and Geographical Publishing House in Berlin.

1. Kiepert's wall-map of the German Empire with the Gymnasiums, Progymnasiums, Realgymnasiums, Realprogymnasiums, Oberrealschulen, Realschulen, Agricultural and Preparatory Military Schools inserted.
2. Kiepert's wall-map of the German Empire showing the High Schools for Girls, Gymnasiums for Girls, Training Schools for Teachers of Both Sexes, Preparatory Training Schools, Commercial High Schools, and Schools for the Deaf and Dumb and the Blind inserted.

School-Map of Prussia.

Killmann's map of the public high schools in the kingdom of Prussia and the Principality of Waldeck. Published by Dietrich Reimer (Ernst Vohsen), Berlin SW. 48, Wilhelm-Strasse 29, at the instance of the Ministry of Ecclesiastical, Educational, and Medical Affairs and with the use of official material. — This school-map is to be had (mounted and on rollers) for 12 marks.

School-Map of Berlin.

A map of the city, showing all the public, municipal, and private educational establishments, higher, middle, and lower

schools, made by order of the Magistrates and School Board of Berlin (Dr. Gerstenberg, Stadtschulrat).

Placards and Printed Papers

representing and illustrating the **Practical Training of Candidates for places as teachers in higher schools. School Teachers.**

1. in general;
2. in particular in the Pedagogical Training Schools
   a) of the Royal Frederick William Gymnasium at Cologne, Severinstraße 25 (Geheimer Regierungsrat Leuchtenberger, Headmaster),
   b) of the Municipal Dorotheenstädtische Realgymnasium in Berlin NW. 7, Georgenstraße 30—31 (Professor Ulbrich, Headmaster),
   c) of the Municipal Friedrich Werdersche Oberrealschule in Berlin C. 19, Niederwallstraße 12 (Professor Nahrwold, Headmaster, Dr. Peukert, First-Class Teacher).

B.

The Various Kinds of German Schools,

Represented and Illustrated
by the Expositions of Establishments Selected as Typical.

The Classical Gymnasium

(Normal System).

By Gymnasiums we understand schools whose task it is to give young people a liberal education based mainly on the study of the Classical Literature of the Greeks and Romans. The name dates from the second half of the sixteenth century; other names are Gelehrtenschule (school whose task it is to produce learned men), Lyzeum (Lyceum), Pädagogium, and Lateinschule (Latin School). The first schools of this kind were the Convent Schools which were established by the monks after the introduction of Christianity into Germany, at Fulda and St. Gallen for instance. Latin was in the middle ages the language of the church, of science, and of general culture. For this reason Latin (especially Latin grammar) was, so to speak, the alpha and omega of education. Grammar, rhetoric (with poetics), and dialectics (or logic) formed the first stage, (the trivium), arithmetic, music, geometry (mathematics), and astronomy the second (the quadrivium), Greek and Hebrew were seldom taught.

In the sixteenth century, under the influence of humanism, Latin became still more important; to be able to speak and write classical Latin was the highest aim. The mother-tongue was not yet a special subject of instruction. The tremendous revolution in the material sciences (geography, astronomy, natural sciences, &c.) and the philosophy of the seventeenth and eighteenth centuries (Bacon of Verulam, Rousseau)

brought about a change in education. The high schools were called upon to pay greater regard to the requirements of everyday life. In 1736 the first "Realschule" was founded in Halle; "Ritterakademien" (schools for young noblemen) and other establishments which made it their aim to prepare young people for special professions were founded. On the other hand efforts were made to create a high school which should provide the necessary education of mind and character for all the higher classes equally. Latin remained the central subject of instruction; Greek gained in importance; it became obligatory, and a considerable number of lessons were devoted to it. To French also, the German language and literature, history and geography more value was attached; besides arithmetic and mathematics, physics and physiography were taught; drawing became obligatory. Owing to many complaints of the overburdening of the pupils and the high requirements in Greek, the teaching of this subject was reduced to narrower limits; in Latin, however, the number of lessons was increased, and it recovered its old dominant position. In equal step with the progress of technics and the general economic development the number of the Realschulen increased. An amalgamation with the gymnasium appeared impracticable, but the curriculum of the Gymnasium was modified to meet modern requirements. In 1882 and still more in 1892 the number of lessons in the classical languages was considerably diminished; the Latin essay was eliminated, and in Greek translations into German were required in the higher classes and in the final examination; in the lower second class ancient made way for modern history. The newest curricula of 1901 introduced only slight changes. According to these, 19 lessons a week are given in a nine years' course in religion, 26 in German, 68 in Latin, 36 in Greek, 20 in French, 26 in history and geography, 34 in arithmetic and mathematics, 18 in natural sciences, 4 (or 5) in writing, 8 in drawing, and 27 in gymnastics. To these must be added some lessons in singing, facultative drawing in the higher classes, Hebrew and English, which may exchange with French.

German is now the central subject of instruction in Gymnasiums, especially as all the other subjects must be taught in such a manner that the pupils are perfected in their knowledge

of their mother-tongue and introduced into the German intellectual life of the present.

The general aim of the teaching of the two classical languages is to give the pupils a knowledge of the most important ancient writers based on an adequate knowledge of the languages, and to make them acquainted with the intellectual life of antiquity and its civilisation.

The Gymnasium has nine courses each lasting one year. The minimum age for admission to the lowest class (the sixth) is nine; the condition of admission is attendance at an elementary school for about three years. Promotion to the next higher classes does not depend on special examinations, but on the judgments and certificates of the teachers given during the school-year, especially the certificate given at the end of the school-year. After the close of the ninth course (upper division of the first class) the pupils are subjected to a final examination in the presence of a commission consisting of a commissary as president, the headmaster of the school, and the scientific teachers of the first class.

The Certificate of Maturity of a Gymnasium admits its holder to the study of all academic subjects, to the respective state-examinations, to the career of an officer in the army or navy without passing the ensigns' or midshipmen's examination, to the higher career in the postal and telegraph service, etc. Of the other rights that may be acquired by attendance at a Gymnasium the following deserve special mention. The certificate of maturity for the first class entitles its holder to enter the service of the Imperial Bank, or to submit himself to the ensigns' and midshipmen's examination; with the certificate of maturity for the upper division of the second class one acquires the right to serve in the army as a one year's volunteer, to become an apothecary's apprentice, and to enter the subaltern career in most of the public offices.

With regard to the Distribution of the Lessons general uniformity prevails; Latin begins in the sixth class with eight lessons a week, Greek in the lower third with six, French in the fourth with four, etc. Since 1892 greater liberty has been allowed; Reform Gymnasiums have arisen which begin the teaching of foreign languages with French in the lowest class. The organization of the Reform Gymnasiums

will be explained below in connection with the exposition of the Frankfort Goethe Gymnasium.

The three kinds of high schools with nine years' courses (Gymnasiums, Realgymnasiums, and Oberrealschulen) have been recognized as of equal quality. The total number of high schools in Prussia in the winter of 1901/02 was 638. Of these 303 were gymnasiums and 52 progymnasiums (i. e. schools with six years' courses and without the three highest years' courses). Of the total number of 167,175 pupils 95,446 attended gymnasiums and progymnasiums; i. e. the majority attended schools of a classical character.

(Headmaster Glombik at Wongrowitz.)

The Royal Gymnasium of Wongrowitz (in the province of Posen) exhibits* the curricula for the several classes in all subjects, the time-table, the plan of distribution of the lessons, annual reports, statistical tables, class-registers, pupils' exercise-books from the sixth class up to the lower first, minutes of examinations, examination-papers, exercise-books containing specimens of fine penmanship, the total plan of site of the school-buildings, three photographs of the various school-buildings, and three photographs of school-life.

The Royal Augusta Victoria Gymnasium in Posen.

This school used to be called the Berger Gymnasium. It was opened in 1896, and has had a building of its own and borne its present name since Easter 1903. It has sixteen classes. Its maintenance costs 105,490 marks a year. It numbers twenty-five teachers and 487 pupils. It exhibits the general curriculum of the Normal Gymnasium (the number of lessons devoted to the various subjects), a detailed curriculum of the Augusta Victoria Gymnasium, tabular statements concerning the teaching-work of the masters, a time-table, statistical tables, fifteen volumes of pupils' exercises in the various subjects and classes, minutes of the final examinations, and class-registers; a plan of site, views of the buildings from the east, the south, and the north, ground-plans of the basement and ground-floor, the first and second stories, and

* Most of the exhibiting schools and educational establishments have added to the articles exhibited by them a Plate with the name of the establishment, made by pupils or by the drawing-master.

the covered gymnasium; an album containing photographs of the school-buildings, a covered promenade on which the pupils walk and play in the intervals when the weather is bad, the hall, and the physics-classroom; photographs of lessons in the fourth class and in the drawing-classroom, and of pupils at gymnastics and rowing; and a model of a stand for hanging up maps and other means of illustration, made under the directions of Herr Liebig, one of the elementary teachers at the gymnasium of Fraustadt.

As examples of Boarding-Schools the Royal State-School Pforta (founded in 1543) and the Royal Joachimsthal Gymnasium (founded in 1607) have been selected. The curriculum of both of these schools is the normal one of the classical gymnasiums.

The Royal Protestant State-School Pforta is situated in a pretty part of the valley of the Saale in Thuringia (in the Prussian province of Saxony), and is one of the oldest educational establishments in Germany. It has educated more than 12,000 pupils, of whom it is proud, — we will name only Klopstock, Fichte, and Leopold von Ranke, — and its history, comprising a period of 360 years, reflects a good part of the changes through which the intellectual life of Germany has passed since the Reformation.

It is to the period of the Reformation that this school owes its origin and its purely Protestant character. Duke Maurice of Saxony was its founder. He conceived the idea of devoting part of the revenues of the convents which had been declared state-property after the introduction of the Reformation to the furtherance of education, and he carried out this idea so energetically that the state-schools of Meissen and Pforta were founded in 1543 and that of Grimma in 1550. The administration of the convent-estates remained in the hands of the state, which, however, also laid down the regulations to be followed in the education and instruction of the pupils even in the minutest details, so that the above-mentioned three schools have been directly superintended and conducted by state-authorities since their foundation. They are among the oldest state-schools in Germany, for before their time education had been attended to by the church and the communities.

The purpose of the foundation was to secure to the country a supply of able men for all branches of the public service and for all the learned professions by defraying the expenses of the education of gifted boys at the public cost till they went to the universities. The circumstance that food, lodging, clothing, etc. were all gratuitous made it necessary that the three state-schools should be boarding-schools, and they have all retained this character down to this day.

Only natives of the country were to be admitted, but differences of rank or means were not taken into account. Soon, however, the three schools acquired so high a reputation that even in the sixteenth century pupils who laid no claim to the privileges, and paid for their board, were also admitted

As regards the preparatory training which the state-school gave its pupils it may be designated as the model of a "Latin School" of the time of the Reformation. The Reformation had left the authority of the ancients as the source of all worldly wisdom intact. To open up the way to these treasures of antiquity was the aim f the schools to which Humanism gave birth. At the same t me, however, it was necessary to meet the practical need of a time in which Latin was the language in which the lectures were delivered in all the universities both at home and abroad. In practical life also every judge, every statesman, every official, in short everybody who claimed to be an educated man, was called upon every day to write a Latin letter, a Latin speech, or a Latin essay, or to conduct oral negotiations in Latin. It was for this requirement of life above all that the Latin school of the time of the humanists sought to prepare its pupils. More than half of all the lessons were therefore devoted to Latin, nay, in a certain sense, all the teaching was made subservient to it, for in the upper classes all the lessons (including those in religion and Greek) were given in Latin; and even when they were not at lessons the pupils were expected, if possible, to converse in Latin. Greek, highly as the humanists rated it, was thrown far into the background by Latin. It was taught only in the two highest classes, and only three lessons were devoted to it in the second class and five in the first, whereas thirteen were given to Latin. The only other subjects were religion (catechism, reading the New Testament in the original,

and the fundamental tenets of the Protestant church) and arithmetic (the four first rules down to the rule of three), while art was represented only by music, the cultivation of which was rendered necessary by the co-operation of the pupils in divine service.

Of exercises in the mother-tongue nobody thought, though the Reformation had made German the language of public worship. The study of foreign languages was entirely neglected, for a knowledge of them seemed practically unimportant, because with Latin, the language of international intercourse, one could get along everywhere abroad, and intellectually unprofitable, because the foreign literatures offered hardly anything comparable to the works of the ancients. Nor did the Latin school give any regular instruction in history, geography, or natural science; it was left to each individual to acquire such knowledge of these subjects as the age possessed by reading the works of the ancients and moderns relating to them, all of which were either written in or translated into Latin. Physical training was so far attended to by the state-schools that, in accordance with the custom of the time, each pupil had a warm bath once a week. On the other hand cold bathing of the feet in summer was expressly forbidden, also in harmony with the custom of the time. — The pupils cannot be said to have been overburdened, for the maximum number of lessons per week (including music-lessons) was twenty-eight.

For almost two centuries the state-schools, like all the Latin schools of the time of the humanists, remained unaltered in their main features, though efforts were made to facilitate the attainment of their chief aim, the imitation of the ancients in their own languages, by introducing new class-books and improved methods. In these two centuries, however, the development of the human mind had not remained so stationary as in the middle ages. In philosophy and astronomy, in mathematics and natural sciences, progress had been made far beyond the limits of the knowledge which had been handed down from antiquity, and consequently the unconditional admiration of the supposedly unattainable greatness of the antique and the opinion that only the language of Cicero was worthy to be used by an educated man disappeared. In all the civilized

countries of Europe people began to study their mother-tongue; at the universities, in scientific literature, in official and diplomatic intercourse, Latin no longer held exclusive sway.

The Latin Schools could not permanently shut their eyes to these great changes, and the state-schools also were reformed in 1728. The essential changes affected the teaching of mathematics, history, geography, and French; the requirements in mathematics were raised, and the introduction of French was made obligatory. But the small number of the Greek lessons and the large number of the Latin lessons (twelve) remained; for the mother-tongue no time was found, except that the younger scholars were to be practised in writing German letters, and in all the classes attention was to be paid to the purity of the German in translating from Latin. The reform effected about half a century later (in 1769) by the Leipsic professor and headmaster of the Thomas School, Johann August Ernesti (an alumnus of Pforta) left the dominant position of Latin unaltered, only increasing the study of the written works of the ancients at the expense of the exercises in speaking and writing Latin.

This led also to an extension of the teaching of Greek. At the same time more attention was at last paid to German, the pupils being required to write essays and deliver speeches in their mother-tongue. But while the Latin Schools yielded only lingeringly and step by step to the demands of life, the German nation had produced poets and thinkers (including Klopstock and Fichte, who had been educated at Pforta, and Lessing, who had been educated at Meissen) who created a classical national literature of imperishable value, and became teachers and educators of the new generation. The newly created literature led in the nineteenth century to the well-known reforms which gave the high schools their present organization, in which not Latin but the mother-tongue, to which all other subjects are to be subservient, is made the centre of all the teaching, and in which the teachers endeavour to communicate to their pupils not only the intellectual treasures of antiquity but also the acquisitions of our own time in the most various fields.

To these changes the state-school of Pforta, which had passed into the possession of P also to

submit. Its curriculum agrees with that of 1901 which is obligatory for all the Prussian gymnasiums, except that, in consideration of its tradition now centuries old, greater scope is given to classical studies, one lesson a week being added in Greek in all the classes in which it is taught and one in Latin in the second class and the first, and the weekly day of study (on which the ordinary lessons are not given, and the pupils read large sections of the works of the ancients privately, so that, for instance, each pupil has to read Homer from beginning to end) being retained. In French, on the other hand, the teaching is restricted to two lessons a week in the first class and the second, but extended to three in the third. The state-school has been able hitherto to maintain itself entirely from its own resources; and there are now, just as there were centuries ago, many highly respected and meritorious men in all positions and circles who gratefully and faithfully revere "old Mother Pforta" as their intellectual foster-mother.

(Professor Chr. Muff, Headmaster.)

Exposition of the Royal State-School Pforta.

A history of the school, school-statistics, distribution of the lessons, time-tables, brief outlines of the art-lessons, a list of the publications about Pforta, a map of the environs of Pforta, the laws of the school, house and school regulations, regulations regarding the admission and maintenance of the alumni, a catalogue of the art-collections, the school-report for 1903, one volume of prescribed tasks, five volumes of exercises written by pupils, class-registers, examination-papers and minutes of examinations, pictures of Pforta, a portfolio containing two plans of site of Pforta, ground-plans of the building in which the pupils live, and drawings of the covered gymnasium and the hospital, equipment of the pupils' rooms, the class-rooms in which drawing and physics are taught, the hall, the lavatory, and the swimming-bath in the river.

The Royal Joachimsthal Gymnasium in Berlin. (A Boarding-School.)

The Royal Joachimsthal Gymnasium was founded in 1607 by the Elector Joachim Friedrich of Brandenburg at Joachims-

thal in the Uckermark (the northernmost part of Brandenburg), and remained there till 1636, when it was destroyed by Saxon soldiers. It found a temporary refuge in the Great Elector's palace, whence it was removed in 1688 to the Burgstrasse in Berlin, where it remained till 1880. At Easter 1880 it was removed to Deutsch-Wilmersdorf near Berlin. The establishment comprises a gymnasium and a dwelling-house for the pupils. The former is organized like all the Prussian gymnasiums. Its development during the last ten years is related in the annual reports (a). The present distribution of the lessons may be seen from the list of the teachers and the time-table (b), the attendance during the last twenty-three years from the attendance-table; the portfolio (f) contains the minutes of the final examination at Easter 1902, the box (d), labelled "Pupils' Exercise-Books", specimens from all the classes and divisions of classes. The front façade, the library, the hall, one of the class-rooms, and the covered gymnasium are represented on the photographic plates i and k.

The number of the beneficiaries is 120, of whom there are four classes, those of the fourth paying the so-called house-money of 250 marks, those of the third 150, those of the second 120, while those of the first pay nothing. There are also boarders (at present 36; maximum number 45), i e. pupils who pay the full price (900 marks a year, reducible under certain circumstances to 600). The pupils are assigned to eight inspectorates, each of which comprises a corridor, two sitting and working rooms, a lavatory, and, in the middle, a dwelling for an unmarried master. The boarding-house is superintended by the headmaster as Boarding-House Inspector, whose functions were only temporarily separated from those of the headmaster about the middle of last century. The immediate superintendence of the pupils in scientific, disciplinary, and economic respects is in the hands of the eight youngest high-class masters under the title of Adjuncts; they must be unmarried and live in the buildings of the establishment. The older teachers take part in the education of the pupils as Tutors, i. e. they give them advice and help as older friends.

The order of the day of the boarding-house may be seen from the exhibited tables for winter and summer (portfolio b);

the meals are taken in a common dining-hall, where also daily worship is held after supper; on Sundays divine service is conducted by the chaplain of the establishment in the hall; a special celebration of the Lord's Supper is held every autumn. The meals are provided by a steward, who receives one mark and 23 pfennigs per day for each pupil. In order to give an idea of this part of the administration, a week's bill of fare is exhibited (portfolio b). A feature peculiar to this boarding-establishment is the swimming-bath, which is used by all the pupils three times a week in summer and twice a week in winter. The exhibited photographic plates (i and k) show a sitting-room, a dormitory, a lavatory, the hall for manual labour, the dining-hall, the swimming-bath, and the playground. The hospital is completely separated from the rest of the boarding-house, and contains three rooms for ordinary and one isolated room for infectious diseases.

(Dr. C. Bardt, Headmaster.)

The Royal Joachimsthal Gymnasium at Berlin-Wilmersdorf (Kaiser-Allee 1—12) exhibits:

a) a book containing ten school-reports from 1893 to 1902;
b) a portfolio containing one copy of the regulations of the boarding-establishment, one list of teachers, one time-table, one copy of the summer and one of the winter regulations of the boarding-establishment, one tabular statement showing the attendance from 1880 to 1903, and one bill of fare;
c) a box containing ninety-four pupils' exercise-books with exercises in German, Latin, Greek, French, mathematics, and arithmetic by pupils of all the divisions from the higher division of the first class down to the fourth class;
d) a pasteboard-box containing two class-registers of the second section of the higher division of the first class and of the first section of the lower division of the first class of 1900;
e) one pasteboard-box containing two documents of the final examination at Easter 1902 (minutes and examination-papers);
f) one portfolio with twelve plans of the buildings of the establishment;
g/i) two large frames, each containing six photographs of parts of the establishment.

The Reform-Gymnasium.

The exposition of the Goethe Gymnasium at Frankfort on the Main illustrates the kind of schools called Reform Schools.

The Essential Characteristic of these schools is that the Teaching of Latin begins only in the lower division of the third class both in the Gymnasium and in the Realgymnasium, i. e. after the pupils have completed their twelfth year. This renders it possible to bring the curriculum of the three lower classes of the high schools that teach Latin into harmony with that of the schools that do not.

So long ago as 1650 Amos Comenius, the founder of scientific pedagogics, proposed in his Didactica Magna a curriculum according to which the pupils were to receive a school-education as uniform as possible up to their twelfth year, giving his reasons in full detail. The beginning of Latin he defers till after the close of the elementary school period, to which he assigns six years, considering it as the period for boys between six and twelve or thirteen years of age. Greek is to be begun two years later. A modern foreign language is to be learned, if at all, before Latin, between the ninth and the twelfth year.

In his travelling-diary of 1769 Johann Gottfried Herder laid down a plan of instruction corresponding in all essentials to that of the Reform-Schools. In the lower classes natural history, history, and physics predominate. The pupils are to be thoroughly grounded in their mother-tongue and in French before beginning Latin and Greek. Schleiermacher also, in his pedagogical lectures, declared in favour of a common substructure of all the higher schools.

In the present age Ostendorf, headmaster of a Realschule at Düsseldorf, was the first to take up those plans again, and he brought them forward in several publications and also at the School Conference in the Prussian Ministry of Educational &c. Affairs in 1873. He himself was prevented from carrying them out by premature death.

The first man who realized the plan of a common substructure for the Realgymnasium and the Realschule was the

Geheime Regierungsrat Dr. Schlee of Altona, headmaster of the Reform-School there. According to the Altona plan French begins in the sixth class, English in the fourth.

Geheimrat Schlee advocated his system at the School Conference of December 1890. A consequence of that conference was the Frankfort Curriculum, which was introduced at Easter 1892 in three Frankfort schools, the Municipal Gymnasium (Goethe Gymnasium) and the Realgymnasiums called the Model School and Wöhler's School; the Oberrealschule called Klinger's School also adopted the system.

In the essential characteristic that Latin begins only in the lower division of the third class the Frankfort curriculum agrees with the Altona one; the circumstance in which it differs from it is that it has only one foreign language in the three lower classes, namely French. Thus it is possible to organize the curriculum of these classes in absolute harmony with that of the general Realschule and the Oberrealschule, and also to draw the classical Gymnasium into the system of the common substructure.

The Social and Scholastico-Political Advantages of this system are the following:

Among the various high schools which give a higher education than that of the elementary schools an organic connection is established.

The pupils who prepare themselves for scientific studies and the learned professions need not be prematurely separated from those who are trained for practical work in industry and commerce.

The choice of the educational way best adapted to the special gifts of each pupil, is facilitated by the circumstance that the decision of the question whether the pupil is to attend a Realschule or a school in which Latin is taught, is postponed.

In smaller towns, which cannot maintain several high schools, the common substructure affords the possibility of doing justice to the various educational necessities of the population without great expenditure.

The curriculum of the Reform-School also presents Pedagogical Advantages.

In the undeveloped age, from his ninth to the end of his twelfth year, the boy is occupied with subjects less remote from his own Observation, the Subjects of Practical Utility. Of abstract thinking, which is less adapted to his time of life, as little as possible is required of him.

In the lower classes the boys are thoroughly grounded in their mother-tongue. The instruction in foreign languages goes the methodically suitable way, rising from the easier to the more difficult. In French the teaching begins with spoken words and the objects that lie around the boy. Slowly and gradually one can pass over to the abstract comprehension and systematic presentation of the linguistic phenomena.

As a modern language, French shares with our own language the essential laws of construction and simplicity of inflection; as a Romance language it presents a vocabulary closely allied to that of Latin. Thus it forms a suitable connecting link between German and Latin.

To maturer pupils, who have already undergone a thorough linguistic training, the ancient languages can be so taught that the unavoidable difficulties are more easily overcome; such instruction leads faster to the goal of reading the ancient writers with understanding, and thus the joyful alacrity with which the pupils learn is increased.

In the Goethe Gymnasium we see how the Reform-School system (in the intermediate and higher classes) affects a Gymnasium; in the Model School at Frankfort on the Main and in the Realgymnasium at Barmen we see it applied to the Realgymnasium.

The Goethe Gymnasium at Frankfort on the Main.

The special task of the Goethe Gymnasium was to reform and systematize the method of teaching languages in accordance with the altered aims. Special importance is therefore attached to the perfecting of the curricula, the manner of treating the teaching, and the distribution of the tasks. In mathematics also a redistribution of the tasks has been effected, by which the upper classes have been disencumbered. For the rest the purposes of the teaching are the same as in the Gymnasiums with the general curriculum,

with which also the requirements of the final examination and the rights of the school accord.

(Geheimer Regierungsrat Dr. Reinhardt,
Headmaster of the Goethe-Gymnasium at Frankfort on the Main.)

The Municipal Goethe Gymnasium at Frankfort on the Main (Hohenzollernplatz 52) exhibits:

1. two ground-plans of the school-building (framed);
2. ten large and eight smaller photographs of exterior and interior parts of the building and of the work of the school (in fifteen frames);
3. a graphic representation of the system of the Reform-Schools, another of their growth, and a third of their dissemination (framed);
4. a curriculum in detail (framed);
5. statistical statements concerning the school (framed);
6. detailed curricula of the various subjects, time-tables, house and school-yard regulations, and schedules (two volumes);
7. a collection of the annual reports of the school since the establishment of the reform-classes (1892—1903) (one volume);
8. a selection of exercises written by the pupils (about twelve volumes);
9. the final examination; minutes and papers (six volumes);
10. six class-registers;
11. a collection of publications relating to the origin of the reform-system and the Frankfort curriculum (three volumes);
12. a collection of the class-books that have been written expressly for the Frankfort curriculum (about twenty volumes).

An exact special list of the exposition of the Goethe Gymnasium, comprising sixty-one items, is laid out.

The Reform-Realgymnasium.

Till the beginning of the eighteenth century the "Latin School", the old Gymnasium, whose curriculum was based in the main on the study of Greek and Latin, was the only high school in Prussia which prepared its pupils for the universities

and the learned professions. Owing to the great progress of education, in the eighteenth century, however, the conviction gradually gained ground that the higher instruction must be brought into harmony with the altered requirements of the time. The needs of the middle class, which did not desire a learned education for its sons, but a practical one which should secure them success in daily business-life, were met by the so-called Realschulen, the first beginnings of which are found in the early years of the eighteenth century. It was not till the nineteenth century, however, that this germ of practical education attained full maturity, and it was the business men of towns and cities that founded "Realschulen" on a considerable scale for the education of their sons. In consequence of the rapid development of technics and industry the Realschule soon began to flourish mightily and developed in three important forms, that of the Realgymnasium (nine classes with Latin), that of the Oberrealschule (nine classes without Latin), and that of the Realschule (six classes without Latin). As, besides these three kinds of schools and the Gymnasium, there were also a large number of höhere Bürgerschulen (High Schools for the Sons of Citizens), in which one or more foreign languages were taught, German education unfortunately suffered for a while from excessive multiformity. This motley variety of the higher educational establishments had for a long time past induced discerning educationalists to seek for a common substructure for all higher education.

In attaining this end only French or English could be taken into consideration as the first foreign language to be taught. The idea, indeed, of beginning the higher instruction with a modern foreign language more or less related to the mother-tongue, was not a new one. But it was the reorganization of public life consequent on the founding of the German Empire in 1871 that recalled attention to this school-reform, and in 1878 Ernst Schlee, headmaster of a school in Altona, succeeded in uniting the Realgymnasium and the Realschule to form a Reform School in which the teaching of French began in the sixth class, of English in the fourth, and of Latin in the lower third, whereas till then Latin had been taught first, then French, and then English. The earlier beginning of the teaching of English is explained by the peculiar circum-

stances of the north-western German coast-towns, of which Altona is one. The good results of this Altona System, especially in Latin in the higher classes (second and first), soon induced a considerable number of towns—Magdeburg, Iserlohn, Hildesheim, Osnabrück, Harburg, and Witten in Prussia, Güstrow in Mecklenburg, Altenburg in Saxe-Altenburg, Ettenheim in Baden, Baden-Baden, Hamburg, and Lubeck —to follow Altona's example.

The "Reform Question", once well started, soon led to a lively exchange of opinions in pedagogical circles. The first Altona experiment was soon followed by a second and not less wisely planned one. At the instance of Karl Reinhardt, headmaster of the Goethe Gymnasium in Frankfort on the Main, a reform-plan, according to which the teaching of French began in the sixth class, of Latin in the lower third, and of English or Greek in the lower second, was introduced in 1892 simultaneously in the Goethe Gymnasium and the two Realgymnasiums called "Musterschule" (Model School) and "Wöhlerschule". By this arrangement of the Frankfort as compared with the Altona system not only is the pedagogical principle, that the foundations of one language must be securely laid before one begins another, complied with, but also, besides the common substructure for all schools (the sixth, fifth, and fourth classes), a second coinciding two-class middle stage (lower and upper third) is created, so that in the five lowest classes the educational way which the pupils travel till their fifteenth year remains the same.

A firm rallying-point for all these reforming efforts was created in 1889 by the founding of the School Reform Society under the presidentship of Friedrich Lange, who at the same time edited its organ, the "Periodical for the Reform of High Schools". Theodor Peters, president of the Society of German Engineers, also advocated the ideas of the reformers with zeal and skill.

Meanwhile, thanks to the complaisance of the state authorities, the Frankfort system has found wider and wider dissemination, so that its curriculum is now followed in more than sixty schools, of which in April 1904 fifty are in Prussia and eleven in the other German states. One of the Prussian ones, the Guericke School in Magdeburg, exchanged the Altona for the Frankfort curriculum in 1897.

The reform-schools according to the Altona or Frankfort system are distributed among the Prussian provinces as follows: East Prussia has one, West Prussia six, Brandenburg five, Pomerania one, Posen one, Silesia three, Prussian Saxony three, Sleswick-Holstein three, Hanover six, Wesphalia five, Hesse-Nassau three, and Rhenish Prussia fifteen. So the Rhenish provinces have more reform-schools than all the other western provinces together. — Of the other German states Saxony has four, Baden six, Mecklenburg-Schwerin one, Brunswick one, Saxe-Altenburg one, Saxe-Coburg-Gotha one, Reuss of the Younger Line one, and the Free and Hanseatic Towns five.

The rights of the Reform Realgymnasiums are the same as those of the old Realgymnasiums.

(J. Leithaeuser, High-School Teacher, Barmen.)

The Municipal Reform Gymnasium at Barmen (Sedanstrasse).

This school was founded as a municipal high school in 1823. Since Easter 1894 it has been a Reform Realgymnasium according to the Frankfort system with a Realschule annexed to it, which, however, has been detached class by class since Easter 1901, so that at Easter 1906 a simple Reform Realgymnasium will alone remain. The staff consists of nineteen permanently appointed masters (including the headmaster), one scientific assistant-master, two drawing-masters, and two elementary masters. In the scholastic year of 1903 the school had sixteen classes, and was attended by 460 pupils. It is maintained by the community of Barmen. The school-fee for the sixth class is 96, for the fifth 112, for the fourth 128, and for the third, second, and first 144 marks a year. Pupils not belonging to the town pay thirty marks more. Eight per cent of the amount received in school-fees may be applied to the reduction of the fees of deserving pupils of small means.

The Exposition contains some ground-plans and some photographs of various sizes showing the interior and exterior of the school-building, which came into use in the spring of 1903. The site cost 286,133 marks, the building 600,610. The most noteworthy of the views are those of the room containing the collections for the lessons in natural science, the library,

the physics class-room with the rooms attached to it, and the chemical laboratory.

A graphic representation shows in double design (by boys of different sizes and in coloured rectangles) the number of the lessons devoted to the various subjects of instruction in the Reform Realgymnasium. Beside it a plate gives information concerning the tasks gone through in all the classes. The time-table of the school in 1903 is given separately.

A map of Germany and a graphic representation in the right corner of it illustrate the dissemination and the growth of the Reform Realgymnasiums according to the Frankfort and the Altona system. The registers of the fifth class, the lower third, the lower second, and the lower first, and a number of pupils' exercise-books, arranged in portfolios according to the various subjects of instruction, are intended to show in detail how the teaching is done. Of each kind of exercise-books three are always selected,—one of the best, a mediocre one, and a bad one. A history of the school during the eighty years of its existence, a collection of the certificates and forms used in school-life, a catalogue of the teachers' library, and the annual reports and scientific treatises printed since the founding of the Reform School, are also exhibited.

(Dr. Michaelis, Headmaster, Barmen.)

The Reform Realgymnasium called "Musterschule" (Model School) at Frankfort on the Main, Oberweg 5. This school was opened on the 18th April 1803 as a "model for German schools" in a room of very modest dimensions in the middle of the Old Town. Its founders were two Frankfort citizens named von Günderode and Hufnagel, and it began with nine pupils,—seven boys and two girls. Being managed in the spirit of Pestalozzi, it soon attracted so many pupils that it was removed in the same year to a house of its own in the Friedberger Gasse, in which at the end of the first school-year three classes of boys and girls were taught by eight masters. Besides the subjects then taught in elementary schools the curriculum comprised history and French, thus meeting the educational wants of the higher middle class. Thus the school developed very rapidly into a kind of higher "Bürgerschule", and for decades it was a matter of course that the

boys and girls of well-to-do Frankfort families of the middle class attended it.

By the addition of English and the lengthening of the curriculum to ten years the school was, about the middle of last century, brought nearer to the type of the first-class Realschule (Realgymnasium), but still without Latin. The political events of 1866 gradually converted it into a normal Prussian High School, and the Economic Deputation (a kind of citizens' committee), which had till then managed the school almost quite independently, was supplanted in 1872 by the newly founded Municipal Curatorium, i. e. the "Model School" passed as a first-class Realschule into the possession and under the administration of the city of Frankfort on the Main; and, as it had grown at last into an establishment of thirty-eight classes with fifty-two teachers and almost 1200 pupils of both sexes, the girls' department was separated from it in 1876, and received under the name of "Elisabethenschule" (the Elisabeth School) a home and staff of its own. The difficult task of adapting the school to its new circumstances was very skilfully accomplished by Dr. Eiselen, who was its headmaster from 1867 till 1894. The transference of the school in 1881 to the east of the city, in conjunction with the simultaneous founding of other schools, proved unfavourable to its further development.

A new period of prosperity began, however, when it was selected along with the Municipal Gymnasium and the Wöhlerschule for the practical testing of the Frankfort plan of reform. With the sanction of the Minister the first sixth class without Latin was opened at Easter 1892. The execution of the plan of reform was then undertaken by Headmaster Walter, who was called to his post at Easter 1894.

In 1901 the "Model School" was able to dismiss the first pupils who had been taught entirely according to the new plan, with the certificate of maturity. Since then thirty pupils of the first class have gone in for the final examination, and all but one have passed it.

The manner in which the reform of the teaching of modern foreign languages is carried on with special zeal at the Frankfort "Model School" appears from various reports, treatises on methods, text-books, etc. exhibited here.

In autumn 1901 the school entered its new building on the Oberweg in the north of the city. Its inauguration was a kind of prelude to the centenary of the "Model School", which was festively celebrated from the 16th to the 18th of April 1903.

The following brief notices give information concerning the present organization of the school:

1. The Model School is under the control of the Royal Provincial School-Board at Kassel. The functionary to whom its affairs are specially entrusted is Dr. Kaiser, Königl. Provinzial-Schulrat.
2. The duty of maintaining the school is incumbent on the city of Frankfort on the Main, which defrays all expenses for the maintenance of the building, the paying of the teachers' salaries, and the providing of educational appliances. According to the estimates for 1903 the expenditure of the school amounted to 121,270 marks, of which 60,000 were covered by the school-fees. For Frankfort children the school-fee is 150 marks, for others 200.
3. The Model School has twelve classes, namely three elementary classes and nine Realgymnasium classes, from the sixth to the first. At the beginning of the scholastic year 1903 the number of the pupils was 403, of whom 132 attended the three elementary classes and 271 the nine classes of the Realgymnasium.
4. The number of the permanently appointed masters, including the headmaster, is seventeen.
5. The certificate of maturity for the upper second, which confers the privilege of serving as a one year's volunteer in the army, was obtained in the years 1897 to 1903 by 159 pupils, of whom 63 left the school to devote themselves to practical professions, while the rest continued to attend the school.

   The final examination, to which the pupils subject themselves after passing through the upper first, was passed by nine in 1901, by eight in 1902, and by twelve in 1903.
6. The certificate of maturity opens the way to all the higher studies and professions except the study of theology.

(Dr. Max Walter, Headmaster.)

The Reform Realgymnasium "Musterschule" (Model School) at Frankfort on the Main, Oberweg 5, exhibits

1. two ground-plans of the ground-floor and the second story of the Model School, a perspective of the Model School, the school-garden, 27 photographs (three large and 24 smaller) in fifteen frames, representing exterior and interior parts of the building and teachers and pupils at work;
2. a representation of the relations between the various school-systems of Prussia from the Elementary School up to the University;
3. three graphic representations relating to the curricula of the various high educational establishments, especially the Reform Schools;
4. a graphic representation of the attendance at the Model School from 1892 till 1903 and of the religious circumstances of the pupils;
5. statistical tables relating to the development of the school;
6. the internal management: distribution of lessons, time-table, plan of work, specimens of work, written exercises, house-regulations, class-registers, annual reports (1891–1903), certificates, sheets of rules for the preservation of health, &c.;
7. curricula;
8. pictures of the collection of objects illustrative of natural science and physics, of the collection of coins (26 photographs taken by pupils of the school), of pupils on a ramble, of pupils rowing;
9. reminiscences of the centenary of the Model School (16th to 18th April 1903).

The Exposition of the Model School itself includes a more exact and detailed special list.

The Realgymnasium.

(Normal System.)

Represented by the Realgymnasium of the city of Elberfeld, Aue 93, the exposition of which includes a report on the development of the Realgymnasium &c. by its headmaster, Dr. Boerner, the gist of which is as follows:

Among the Realschulen that arose towards the end of the eighteenth and in the beginning of the nineteenth century there were many which, while endeavouring to meet the requirements of the middle class, did not lose sight of the aim of the Latin Schools (Gymnasiums), namely to teach those branches of knowledge which rendered successful study at the universities possible; they therefore from the outset admitted Latin to their curricula as an obligatory subject. Those Latin-teaching Realschulen developed into the Realgymnasiums of our time, indeed the name Realgymnasium was sometimes applied to them even then. At first their curricula displayed great variety; but the more they grew in importance in consequence of the advance of the natural sciences and the alteration of the conditions of traffic, the more imperative did it become for the Government to lay a regulating hand on them and to bring about greater uniformity in their curricula and aims. This was first effected by the provisional regulations of 1832.

When in 1834 admission to the higher professions, which require several years' preparatory training at universities, was made dependent on passing the final examination at a Gymnasium, the efforts of the higher Realschulen to obtain equal rank with the Gymnasiums began. Till 1859 their relation to the Gymnasiums had been a subordinate one, but the first, though only theoretic, recognition of their value was accorded them in that year by the regulations concerning Instruction and Examinations at "Realschulen and Higher Bürgerschulen". The recognition lay in the following words of the commentary: "Between the Gymnasium and the Realschule there is no fundamental contrast but a relation of mutual supplementation. They share the task of laying the foundation of all higher education for the main branches of the various classes of professions." The Realschulen with obligatory Latin, which were thus recognized as equal in value to the Gymnasiums, received the name "Realschulen of the first order". By this recognition of their value a new impulse was given to their efforts after equality. And yet nineteen years elapsed before the philosophical faculty was opened to those who had passed the final examination of Realschulen of the first order for the study of mathematics, natural sciences, and modern languages. This was done in 1870. In 1875 the General

German Society of Realschule Men was formed by the union of educationalists and educated men not professionally connected with education, and its purpose was to pave the way for a future revision of the privileges of schools.

In the school-reform of 1882 the desired name of Realgymnasium was conferred on Realschulen of the first order, but only eight years later their existence was threatened by the following resolution of the December Conference of 1890:

"In future only two kinds of high schools are to be retained, namely Gymnasiums with the two ancient languages and schools without Latin (Oberrealschulen and Bürgerschulen)."

The resolution was not carried out, and of 84 Realgymnasiums in Prussia only eleven ceased to exist. Only the Realprogymnasiums (incomplete Realgymnasiums without the three highest classes) disappeared for the most part.

With the beginning of the new century the principle of the equal privileges of all high schools with an equal period of study triumphed. In the Imperial Decree of the 20th November 1900 we read: — "As regards privileges, the principle is that the Gymnasium, the Realgymnasium, and the Oberrealschule are to be regarded as of equal value as establishments for the general education of the mind, and that a supplementation remains necessary only so far as for not a few studies and professions special preliminary knowledge is required the communication of which does not belong, or at least not to the same extent, to the tasks of each school." The carrying out of the reform in accordance with the ideas stated by the Emperor was not delayed. On the 20th March 1901 the unconditional admission of those who pass the final examination of one of the three highest kinds of schools, to the examination for the office of a teacher of any subject in high schools was decreed. On the 28th May of the same year the new regulations for the examination of medical men, resolved upon by the Federal Council, opened the study of medicine to all who pass the final examination of a German Realgymnasium, and on the 1st April 1902 the study of law was thrown open to all who pass the final examination of a Realgymnasium or an Oberrealschule.

As regards Privileges, then, the Realgymnasium is now absolutely equal to the Gymnasium, with the single exception

that its pupils are not admitted to the study of Theology. — The development of the Realgymnasiums in the other German states proceeded, especially after the agreement of 1889 regarding the mutual recognition of the certificates of maturity of Realgymnasiums, similarly as in Prussia. Only as regards admission to the study of law the negotiations in the non-Prussian states are not yet concluded.

Organization. According to the new Prussian curricula of 1902 the Realgymnasium (of the Normal System) is a high school which instructs its pupils in a nine years' course in religion, German, Latin, French, English, history, geography, arithmetic, mathematics, physiography, physics, chemistry, drawing, writing, singing, and gymnastics. Beginning from below the classes are called the sixth, the fifth, the fourth, the lower third, the upper third, the lower second, the upper second, the lower first, and the upper first. The minimum age for entering the sixth is nine.

The curricula of the various classes may be seen from the exhibited time-tables and other tables.

General Aim. The Realgymnasium aims at giving a general education of the mind, such as is necessary for scientific studies, by laying greater stress on the modern means of education — modern languages, mathematics, and natural sciences — than the Gymnasium does, while, on the other hand, by giving an adequate knowledge of Latin, it opens the eyes of its pupils to the historical connection of our civilization with that of antiquity.

Privileges. The certificate of maturity entitles its holder to study at universities or technical high schools for all state careers except that of the theologian. For the latter a further examination in Latin and Greek before a special provincial Commission, easier than the leaving examination at a Gymnasium, is for the present prescribed.

The pupil who has passed through certain classes, the same as at the Gymnasium, is entitled to enter the middle and lower state careers and to serve in the army as a one year's volunteer. The condition of the latter privilege is maturity for the upper second class.

Statistics. In 1859 Prussia had 26 Realschulen of the first order, and in 1882 ninety Realgymnasiums. In 1890 she

had 85 Realgymnasiums, while the other German states had 41; in 1898 there were 74 in Prussia and 115 in all Germany; in 1904 there are 106 in Prussia and 152 in all Germany. They are of two classes, normal and reformed.

The Realgymnasium of the City of Elberfeld exhibits

1. (on the wall) views and ground-plans of the building, also photographs of rooms in the school and of scenes of school-life;
2. six volumes and a tableau relating to general organization, arrangement of lessons, history, and statistics;
3. fifteen volumes relating to the contents of the libraries and collections;
4. one volume containing a report on the founding, statutes, and increase of the endowments for beneficent purposes;
5. nineteen original class-registers;
6. forty registrators with pupils' exercise-books;
7. six volumes relating to the final examination of 1903;
8. nine portfolios with drawings by pupils;
9. a revolving stand containing
   a) graphic representations of organization, attendance, and expenditure, and time-tables;
   b) house-regulations and a plan of excursions;
   c) photographs of a school-fête, an excursion of pupils, and parts of the school-building.

A still more detailed manuscript list of all the objects exhibited by the Elberfeld Realgymnasium is laid out in the Exposition.

The normal curriculum of the Realgymnasiums forms the basis of that of

The Military Schools.

The whole system of military education is under the War Office. Dr. Ziehen of Berlin, Chief Superintendent of Studies, has added to the special exposition of this group a detailed report on the Royal Prussian Corps of Cadets, the essential gist of which is as follows.

Having developed out of various cadets' companies and academies founded since 1686, the Prussian Corps of Cadets

consisted before the reorganization of military education in the years 1807—1813 of a number of separate houses of cadets (Berlin since 1717, Stolp from 1769 to 1806, Kulm since 1776, Kalisch from 1793 to 1806), which were not yet united into one uniform organism. The above-mentioned reorganization first created one great military school consisting of several preparatory establishments and one principal establishment, which in the course of the nineteenth century grew more and more in external extent, but, eliminating with increasing rapidity all elements of instruction that promoted merely professional training, gradually became a military boarding-school with the curriculum of a high school, identical in general with that of the normal Prussian Realgymnasium. The only essential difference is that in the Corps of Cadets, owing to the fact that even in the third class it receives a pretty considerable influx of pupils from the gymnasiums, English begins in the upper third, not, as in the Realgymnasium, in the lower third. As regards privileges the Corps of Cadets has been placed on a par with the Realgymnasium; the requirements of the final examination correspond to those of the Realgymnasium, except that in the Corps a written examination-exercise is required in two modern foreign languages (French and English or—in consideration of the instruction in Russian introduced experimentally since 1897—Russian). The fact that our time demands a higher degree of culture in an officer than past times did has given an increasingly greater importance to the scientific instruction in the Corps.

At present the Cadets' Corps consists of eight preparatory establishments and one principal one. The former comprise the classes from the sixth to the upper third, the latter, besides an upper-third course for cadets who have outgrown the preparatory establishment, the classes from the lower second to the upper first. It has also a select class with the curriculum and aims of a war-school, and a special class for cadets who have passed the ensigns' examination, but are, on the one hand, not yet fit for service and, on the other hand, not fitted to attend the first class with favourable results. Since 1888 all the cadets have been required to subject themselves to the ensigns' examination after having attended the upper second class.

The military instruction in the preparatory establishments trains the pupils to unembarrassed and unobjectionable behaviour in uniform and to the simplest manual exercises with the rifle; in the principal establishment they learn swordsmanship, the simplest drill-exercises, exercises preliminary to shooting, and the rudimentary duties of non-commissioned officers. Shooting and riding are taught only to pupils of the select class and of the first class; in other respects the pupils of the select class get exactly the same training as those of the war-schools.

For educational purposes the cadets are classified in educational sections of about twenty pupils, and the rooms in which they live are immediately adjacent to the dwelling of the tutor.

In the preparatory establishments all the cadets of a company sleep in common dormitories, whereas in the principal establishment six always sleep together in one room.

It is strictly attended to that, as a rule, no class has more than thirty pupils.

The splitting up of the Cadets' Corps into a principal establishment with the classes from the lower second to the upper first and several preparatory establishments with classes from the sixth up to the upper third is attended by not a few disadvantages for the course of the instruction and especially for the masters personally, but is imperatively demanded by obvious considerations connected with the character of the Cadets' Corps as a Boarding-School. Only in quite rare exceptional cases, as, for instance, in favour of the instruction of the Imperial Princes at the Princes' School at Plön and of the Duke of Saxe-Coburg-Gotha at Potsdam, has a most carefully selected and also very limited number of older pupils been accommodated at a preparatory establishment.

The instruction and service of the principal establishment is occasionally inspected in the course of the school-year by the Inspector-General of Military Education and by the Commander of the Corps, that of the preparatory establishments by the former once every second year and by the latter once every year. The latter is accompanied on his journeys of inspection by an aide-de-camp and by the Chief Superintendent of studies, who has been attached to the Commander of the

Corps since 1900, and who is bound to be present at the lessons in the principal establishment frequently in the course of the school-year.

In the preparatory establishments counsellors of studies are attached to the Commanders as professional superintendents of instruction; in the principal establishment the same position is held by a superintendent of studies for each battalion of the establishment. As regards appointment, salary, and other conditions of service the Civilian Masters of the Cadets' Corps are in general on a par with those of the Prussian state-schools, but they are officials of the Empire.

Only well-recommended officers (captains or lieutenants) who have already proved their efficiency as teachers in the same or a kindred department of military education and have also shown their qualification by written essays are transferred to the Cadets' Corps as Military Masters for about four or five years. Nor are the Tutors (lieutenants or second lieutenants) appointed to be masters until they have thoroughly and methodically prepared themselves for giving instruction in one or more subjects, and proved their qualification by trial-lessons. In general the giving of scientific instruction by the tutors is confined to rather narrow limits.

The Cadets' Corps is a seminary for the education of army-officers; it affords the sons of meritorious officers and civilian officials of the higher class the advantages of exhibitions or diminished school-fees, and the Commander and masters endeavour to make the stay in the establishment, far away from home, as agreeable for the youthful pupils as possible in every respect, without detriment, of course, to the strict discipline which is consistently enforced. All negotiations with the teachers concerning questions regarding the progress and development of the pupils are carried on by the educating officials of the Cadets' Corps (chiefs of companies and tutors) as the representatives of the parents. The certificate of the teachers is sent to the parents at the appointed times as an appendix to the certificate of the company.

The Royal Cadets' Corps exhibits

1. ten general views of the building containing the office of the Commander of the Corps, the principal establishment

at Gross-Lichterfelde near Berlin, and the preparatory establishments at Köslin, Potsdam, Wahlstatt, Bensberg, Plön, Oranienstein, Karlsruhe, and Naumburg, under glass and in frames;

2. two coloured sketches representing a cadet of the time of King Frederick William I. and a cadet of to-day;
3. a plan of site of the principal cadets' school at Gross-Lichterfelde;
4. a folio portfolio containing 27 plates with pictures of the establishments;
5. a folio portfolio containing 14 plates with pictures of the life in the establishments;
6. albums of the cadets' houses at Plön, Oranienstein, Potsdam, and Karlsruhe;
7. a portfolio with collections of the forms used in transacting the business of the principal establishment and a preparatory establishment;
8. a collection of correction-slips of the class-exercises of the principal establishment;
9. a collection of correction-slips of the class-exercises of a preparatory establishment;
10. regulations concerning admission to the Royal Cadets' Corps, and its curriculum;
11. regulations concerning the final examination at the principal establishment;
12. service-regulations, house-regulations, and the like;
13. time-tables and division of time at the principal establishment and a preparatory establishment;
14. minutes of the final examination in the upper first class in 1903;
15. class-exercises, exercise-books containing drawings of plans, and the like;
16. a portfolio containing eleven plates with statistical summaries and the like;
17. literature treating of the Cadets' Corps;
18. text-books of the Cadets' Corps;
19. a bronze figure of a cadet in uniform on a pedestal;
20. a large portfolio containing 56 sheets with ground-plans and vertical plans, and representations of parts of the Cadets' House at Naumburg;

21. a more detailed manuscript catalogue of the exposition of the Royal Prussian Corps of Cadets with explanatory additions.

Private Schools.

The **Protestant Pedagogium** at Godesberg comprises a Boarding-School, Gymnasium and Realschule courses, and a Commercial Department, and aims at combining the discipline, seriousness, and other advantages of a large well-equipped school like the German state-supported schools with the good, firm, and friendly education of a Christian family. With all its healthy simplicity and sobriety this family life excludes all exaggerated rigour, such as is necessary with great masses.

The school was founded by the Rev. J. Axenfeld in 1883, but owes the organization which it now has, to its present headmaster O. Kühne (in office since 1887). In 1895 his brother, Professor Dr. H. Kühne, who had till then been for fifteen years in the service of the state, joined him in his work. In this school the same instruction is given as in the six lowest classes of a gymnasium* and of a Realschule, to which a commercial department in one class is added. In 1887 the number of pupils was 23, but it has now risen to 382†, — a proof of the great approval the principle of the school has met with. There are at present 22 classes taught by 52 masters.

What essentially distinguishes the establishment from all other schools is, as already indicated, the life outside of the school. The 324 boarders are distributed among 23 family-houses, each with one of the older masters, assisted by one or two of the younger ones, at its head. In such a house everything, including even the nursery, is made subservient to the general aim. The women, accordingly, are just as much concerned in the work as the men.

The newly-built school-house, with the ground it stands on, cost 650,000 marks; all the dwelling-houses together cost 1,164,000, and the playgrounds and gardens 206,000. The number of persons belonging to the establishment, including the children and servants, is at present 216.

* Is therefore in this respect a "Progymnasium".

† Including day-scholars.

At Herchen in the Siegtal there is a little branch-establishment, situated quite in the country surrounded by pretty woods, and thus offering special educational advantages. There are 35 pupils there in two houses with six masters. On all other details the prospectus, which is in German, English, and French, gives information.

(O. Kühne, Headmaster.)

The Protestant Pedagogium at Godesberg exhibits

1. two large pictures illustrative of the peculiar organization of the Pedagogium (One of them is a landscape representing the school-house and 21 family-houses, each of which is inhabited by about fifteen boys and one of the masters with his family. Before the school lies a large space for gymnastics, and behind it, on the left, the play-ground. The houses are surrounded by parks. In the background, at a distance of about 160 yards, one sees the Rhine, with the Seven Hills, and Königswinter at the foot of them);
2. the 23 family-groups of the Pedagogium (The pupils, distributed not according to their classes but on the principle that each is placed under the care of the master whom his character requires, form with the master and his wife and children one family. There they live and work when not at school. For their lessons they go to the large common school-building in the middle of the picture. It was built in 1901 at a cost of 500,000 marks. It is 60 metres long and 22 in depth. The tower [78 metres high] has an astronomic observatory at the top with a telescope, which cost 5000 marks. The little building in front of the school is the old school-house, which is to be pulled down soon. Besides the family-pictures one sees the teaching-staff and the pupils below);
3. a phototype-album and
4. a stand with movable frames, showing various parts of the establishment, and at the end scenes from the life of the pupils (The phototype-album is on sale for three marks);
5. two class-registers of the two highest classes of the Realschule and of the Progymnasium;

6. some text-books based on practical experience gained in the Pedagogium, and expressly written for its masters and pupils;
7. a general report on the establishment (in German, French, and English);
8. the annual report of the last school-year;
9. a list of the pupils;
10. a report on the branch-establishment at Herchen;
11. distribution of the tasks among the classes and trials of classes;
12. regulations of the establishment for the guidance of the teachers;
13. reading-books for the lessons and means of instruction for the object-lessons (arranged by classes out of the catalogue of the teachers' library, in order that the teacher may know what books fitted to help him in his teaching are at his disposal);
14. a catalogue of the natural-science collection for the pupils who visit it.

The High Schools without Latin and Greek.

The Oberrealschule with Nine Classes,

which is represented in the International Exposition at St. Louis by the Oberrealschule at Bochum, has existed only since 1882. It is the youngest type of high school. Its whole organism is based on the six-class high school without Latin, whose main purpose it is to train pupils who do not intend to study at universities in such a manner that they shall be better fitted for the callings of practical life than if they had attended high schools at which the ancient classical languages are taught. To the six classes of this school the Oberrealschule adds the three classes of the higher stage, — the upper second, the lower first, and the upper first.

The Oberrealschule has developed mainly out of the old Prussian technical schools (Gewerbeschulen), which aimed in particular at preparing their pupils for the various industrial

callings. They were special schools; their subjects of instruction were drawing, arithmetic, mathematics, and natural sciences. — With the intellectual progress which the German middle classes have made since the political union of Germany in 1870 and 1871 the demands which the German merchants and manufacturers make on themselves and on the young people who enter their service have become greater. Thus the special schools of an earlier period developed into general educational establishments.

The subjects taught by the Oberrealschule may be divided into three groups, viz. the historico-ethical subjects, including religion, German, history, French, and English; the exact subjects of knowledge, — mathematics, (arithmetic, geometry, trigonometry, and stereometry), natural sciences (botany, zoology, mineralogy, physics, chemistry, and geography), and linear drawing; and thirdly, the technical subjects (drawing, singing, and gymnastics).

At the age of nine to ten the pupils enter the lowest class of the Oberrealschule (the sixth); the lowest six classes are organized in all respects like the corresponding ones of the Realschule. In these classes the main subjects are German, French, English, and mathematics. — In the three higher classes, the Oberrealschule proper, physics and chemistry are added. The whole course of instruction lasts nine years. The curriculum of the Oberrealschule is an harmonious and distinctly limited whole, in which the latest school-reforms have found hardly anything to alter. The Oberrealschule excludes the old classical languages, while, on the one hand, it lays more stress on German, French, and English, and, on the other hand, on mathematics, natural sciences, and drawing.

The Oberrealschulen in Prussia were not founded by the state but by the municipalities, and especially in the parts of the kingdom in which industry and commerce have taken increased dimensions, above all in the west. The means for the maintenance of the Oberrealschulen have also been provided almost exclusively by the municipalities. There are at present

in Prussia	48
in the rest of Germany . .	19
in all	67 Oberrealschulen.

The total number of pupils at the Oberrealschulen in Prussia in the year 1902/03 was	17,679
and in the rest of Germany	10,781
in all	28,460.

The number of pupils who passed the final examination in the Prussian Oberrealschulen in 1898/99 was 233, in 1899/1900 263, in 1901/02 293, and in 1902/03 361. The right to enter almost all the higher professions and to study at universities has recently been granted them.

The Municipal Oberrealschule at Bochum, which exhibits as a type of the Prussian Oberrealschule, was founded as a technical school (Gewerbeschule) in 1851; it has been an Oberrealschule since 1892. It is attended by about 600 pupils in eighteen separate classes, and has 26 masters. It is undenominational. Its income and expenditure for 1903 were 157,160 marks. The annual contribution of the town of Bochum is 78,220 marks; the receipts in school-fees amount to 78,100 marks, to which must be added entrance-fees to the amount of 840 marks. For pupils domiciled in Bochum the school-fee is 130 marks a year, for those who live in the environs 50 per cent more, and for those who live at a greater distance 25 per cent more. The teachers' salaries amount to 107,930 marks a year. For means of instruction 3550 marks a year are allowed. The external administration of the school is in the hands of the Board of Management, of which the Mayor of Bochum is the chairman. The superintending state-authority is the Royal Provincial School-Board at Munster.

The Oberrealschule at Bochum, Götterstrasse 6, exhibits

A. Representations illustrative of the curriculum, and general representations, —
   1. a table showing the development of the Oberrealschulen in Prussia,
   2. a table showing the development of the Oberrealschule at Bochum,
   3. a table showing the privileges,
   4. a map of Germany with Realschulen and Oberrealschulen,

5. a map of the Rhenish-Westphalian industrial district with its high schools,
6. a pictorial representation of the attendance at the three high schools in figures;

B. Time-Tables, —
1. a time-table of the whole school,
2 a, b) time-tables of two classes,
3 a, b) „ „ „ teachers;

C. Representations illustrative of the tasks, —
1. a table showing the subject-matter of teaching for each class,
2. a table showing the distribution of the subjects of teaching among the masters,
3. the distribution of the subjects of instruction among the classes,
4. a graphic representation of 3,
5. a graphic representation of the space for each subject of instruction,
6. a graphic representation (in figures) of the subjects of instruction with the numbers of the lessons allotted to them;

D. A selection of written exercises;
E. Class-Registers;
F. Final examinations, minutes, examination-papers;
G. Photographs of the school-building;
H. Ground-plan of the building;
J. Photographs of the rooms;
K. Photographs illustrating the work of the school (lessons in various classes and subjects, also in the laboratory and in gymnastics, a meeting in the school-hall, a conference of the masters, a scene in the headmaster's office, etc.);
L. Other photographs (appliances for teaching chemistry, a work-table used in the study of physics, a zoological collection, objects for the drawing-lessons).

The Realschule with Six Classes.

The six-class Realschule without Latin (but with the two modern foreign languages French and English) is in its present form a comparatively young creation, dating only from the

end of last century. Its history is closely interwoven with that of the Realschulen with nine classes,—the Realgymnasium and the Oberrealschule. Like them the six-class Realschule looks back on a period of development of 200 years. The Realschulen developed first out of a kind of artisans' schools, and were then united with the higher Bürgerschulen (schools for sons of the middle classes). To their original purpose, which was to give the vigorously developing middle classes a general scientific training for those professions for which it was not necessary to study at universities, the Realschulen have in course of time been in many respects unfaithful, having, on the one hand, become training-schools for special professions, and having, on the other hand, admitted Latin to their curriculum. This latter deviation was made owing to the question of privileges. Privileges, above all the right to serve only one year in the army, were made dependent on the knowledge of Latin. It was therefore a necessity of self-preservation for the Realschulen to admit this branch of instruction to their curriculum. In Prussia especially, in consequence of the Education Act of 1859, which regulated the Realschulen for the first time and created first-class Realschulen with a nine years' course, second-class Realschulen with an eight or seven years' course, and higher Bürgerschulen with a six years' course, Latin was re-introduced into almost all the Realschulen, whereas in the other German countries many Realschulen continued to exclude it. When the new provinces fell to Prussia in 1866, an improved state of things set in. In Hanover and Hesse there were many Realschulen without Latin, whose results were perfectly satisfactory, so that the Prussian Government granted them the privileges without more ado. Thus the attention of wide circles was drawn to these establishments, and in the following years high schools without Latin were founded especially in the industrial centres of the West, for instance in Cologne, Dortmund, Barmen, Remscheid, and Düsseldorf, but also in the East,—in Magdeburg, Breslau, Stettin, and Königsberg. The conversion of the higher Gewerbeschulen into Realschulen without Latin, which took place in 1878, had an important effect on the outer development of the Realschule. But it was not till 1882, when a new act was passed, that full justice

was done to the Realschule. The new act regulated the Realschulen without Latin so that three kinds were distinguished,—the Oberrealschule with a nine years' course, the Realschule with a seven years' course, and the higher Bürgerschule with a six years' course. According to the Education Act of 1859 the higher Bürgerschulen were thenceforth called Realprogymnasiums and were Realgymnasiums without the first class. The former second-class Realschulen were thenceforward called Realschulen, and bore the same relation to the Oberrealschulen as the Realprogymnasiums to the Realgymnasiums. Many of the higher Bürgerschulen had grown out of older Bürgerschulen with a six years' course, and had therefore, like the Realschulen, excluded Latin from their curriculum. A uniform organization of the incomplete schools, however, i. e. the reduction of all incomplete schools to their original six classes, was not effected till 1892, when the Curriculum and Examination Acts strove to do justice to the tendency asserted by the Emperor William II. at the famous December Conference of 1890. The hitherto existing Realschule, like the already existing higher Bürgerschule, was made a six-class school, and the latter type of school received for the future the name of Realschule. The certificate of maturity of the six-class Realschule was recognized as sufficient for all the branches of the subaltern service, for which the proof of a seven-class school-education had hitherto been required, and confers the right to serve in the army as a one year's volunteer. The circumstance that, at the complete schools also, the right to serve as a one year's volunteer was made dependent on the passing of an examination at the close of a six years' course brought about an extraordinary increase of the attendance at the Realschulen, as will be seen from the statistics at the close of these remarks. The new curricula of 1901, which above all declared the equality of rights of all nine-class schools, brought at the same time an alteration of the regulations for examination at Realschulen as well as at other schools. The final examination was abolished, and replaced by an examination bearing the character of an examination for promotion to the upper second class of a complete school. The fact that many Realschulen are now being converted into Oberrealschulen is closely connected with this change.

The curriculum of the Realschulen is the same as that of the six lower classes of the Oberrealschule. Deviations, however, in accordance with local circumstances are allowed. One form of deviation, the main feature of which is the increased attention paid to German, is shown by the distribution of lessons among the various subjects of instruction at the Kreuznach Realschule (see Exposition). The teaching of French only in the four upper classes of Realschulen is confined to Berlin.

In other parts of Germany the external circumstances of the Realschulen are not so simply and clearly regulated as in Prussia. This is the case both as regards the number of the classes (in Wurtemberg, Baden, Hesse, Mecklenburg-Strelitz, Schwarzburg-Rudolstadt, and Bremen there are still seven-class Realschulen) and as regards the Latin question.

What especially recommends the six-class Realschule without Latin to the middle classes is the facility of its conversion into an Oberrealschule, of which it is the substructure, and the consequent facility of the transference of a pupil to the higher school in case of his requiring a more advanced education and possessing the necessary talents. The Realschulen are by no means higher elementary schools, but high educational establishments furnished with teachers absolutely equal to those of the complete schools.

As to the number of the six-class Realschulen without Latin in the various German states in 1893, 1898, and 1903, and as to the numbers of their masters and pupils in those years, information is given in a table which forms part of the exposition of the Kreuznach Realschule.

(Bähre, Headmaster of the Realschule at Kreuznach.)

The **Realschule at Kreuznach** (Hofgartenstrasse) **exhibits**

1. pictures of Kreuznach, total view and ground-plan of the Realschule;
2. tasks for the various classes in the various subjects;
3. time-tables and distribution of lessons among the various subjects;
4. statistical tables showing the increase of the budget (in graphic representation), the number of pupils who have passed the final examination (in curves), the number of

the Realschulen in Germany from 1893 to 1903 (in pictorial representation); a tabular statement showing the circles to which the pupils belong and the professions embraced by the pupils that have passed the final examination;

5. the privileges of the Realschulen;
6. the attendance, represented in curves, where the pupils were born, and of what religion they are;
7. photographs representing the interior rooms of the school-building and scenes of school-life in-doors and out of doors;
8. twelve volumes of pupils' exercises;
9. written exercises and minutes of the final examinations of 1901 and 1903;
10. the curriculum in detail (the aim of the teaching, tasks and methods of teaching for each subject and class);
11. class-registers;
12. the history of the school, a description of the building, organization and institutions of the school, programmes of festivities, school-reports with scientific appendices, decorations (pupils' caps, &c.).

The Realschule with the Berlin Curriculum.

The first Realschule (of the old type) in Berlin was opened in 1747 by Johann Julius Hecker, a pupil of August Hermann Francke, as an "economico-mathematical Realschule". In the years 1821 to 1841 it was reorganized up to date by the Berlin schoolman August Gottlieb Spilleke, who rendered great services to the Realschulen, and still flourishes at the Royal Emperor William's Realgymnasium. During the first half of the nineteenth century (1832—1836) similar schools were established by the city of Berlin, at first as municipal high schools; they too have all developed into Realgymnasiums. In 1824 the first municipal school without Latin was established as the Berlin Gewerbeschule (technical school); it also was transformed in course of time into a complete school, and is now the Friedrich-Werder Oberrealschule. About the year 1880 all the high schools in Berlin were complete schools with nine years' courses, namely fifteen Gymnasiums, eight Real-

gymnasiums, and two Oberrealschulen; this number has remained unchanged since then.

Of the pupils who attended the high schools a very considerable number ($^1/_2$-$^3/_4$) left school after passing through the lower second class and receiving the certificate entitling them to serve in the army as one year's volunteers, in order to embrace middle-class callings; in them the purpose of the school was not attained, on the contrary they entered life with an incomplete education, and had spent their time on not a few things which were of no use to them whatever in their future callings. This circumstance suggested the idea of establishing for such young people schools which, while giving them the right to serve as one year's volunteers, should at the same time afford a better preparation for acquiring the knowledge and skill necessary in practical life. So long ago as 1869, therefore, Dr. Friedrich Hofmann, who was then Stadtschulrat (Municipal Councillor for Schools), made the attempt to establish intermediate schools; but the attempt remained without practical consequences, because only one foreign language was to be taught in these schools, and consequently the right to serve as one year's volunteers could not be granted. In 1883, however, the proposal made by Stadtschulrat Professor Dr. Heinrich Bertram, to found a six-class higher Bürgerschule without Latin on the model of the curricula of the 31st March 1882 was crowned with success. In consideration of the social conditions of Berlin, however, an organization deviating from the governmental curriculum was planned for this school; there were to be no lessons in foreign languages in the two lower classes, and French was to begin only in the fourth class. The purpose of this was to enable clever pupils of the elementary schools, after passing through the latter (generally after finishing their twelfth year), to pass without losing ground into a higher school, and get a higher middle-class education there. After this deviation had been sanctioned by the Ministry (compare the "Documents concerning the establishment of higher Bürgerschulen"), the first Berlin higher Bürgerschule was opened at Michaelmas 1884. In the following years similarly organized higher Bürgerschulen arose in rapid succession in the different parts of the city. Since 1891 these

schools have borne the official designation "Realschulen". The Second Realschule, which exhibits here, was founded in 1886, the twelfth in 1895, and the thirteenth, which is still in the stage of development, in 1902.

The Realschulen have developed into flourishing establishments, and form an essential and important part of the Berlin school-system. In the end of 1902 the following high schools existed in Berlin:

Schools	Number	Number of Classes	Number of Pupils
Gymnasiums	15	239	7093
Realgymnasiums	8	124	4114
Oberrealschulen	2	34	1002
Realschulen	13	158	5689
	38	555	17898

Of the 38 Berlin high schools, then, one third are Realschulen, and nearly one third of the pupils attending high schools are taught in them.

The Realschulen are intended for the sons of the middle classes, and their purpose is to supply the material for the future middle class (merchants, officials of secondary rank, industrial men). That they fulfil this purpose is shown by the graphic representations on plate IV (the parents' callings) and plate V (the callings chosen by the pupils who pass the final examination); most of our pupils, it is true, embrace the mercantile profession, very few become artisans, and this latter fact is contrary to what was originally wished and expected. By the easy transition to the upper second class of an Oberrealschule (compare the privileges on plate IV) clever pupils are enabled to enter the learned professions.

At the end of 1902 there were in the thirteen Berlin Realschulen thirteen headmasters, 161 first-class teachers, and 36 technical teachers (12 for drawing, 12 for singing, and 12 for gymnastics). Their income in round numbers was 442,164 marks, their expenditure 1,241,831, and the contribution of the city 799,667.

The special circumstances of the Second Realschule are stated on plate I.

(Professor Dr. Reinhardt,
Headmaster of the Second Municipal Realschule in Berlin.)

The **Second Municipal Realschule,** Weissenburger Strasse 4a, **Berlin, N.,** exhibits

A. on the wall, a portrait of Geheimer Regierungsrat Professor Dr. Heinrich Bertram, the founder of the Berlin Realschulen (made by the photographer O. Fechner, Potsdamer Strasse 134a, Berlin, and to be had for 130 marks); three plans of the school-building;

B. on the table, documents relating to the establishment of higher Bürgerschulen; the curriculum of the Second Realschule;

one portfolio containing forms used in the administration of the school (a certificate of admission, cards about personal affairs, lists of pupils, rank and promotion lists, rough draughts of certificates, final certificates, &c.);

the school-regulations of the Second Realschule; six class-registers; nine portfolios containing pupils' exercise-books; one portfolio containing minutes and papers relating to the final examination; a catalogue of the pupils' library, arranged according to classes; annual reports of the Second Realschule; and scientific treatises appended to the annual reports;

C. in the revolving stand (four panels, eight plates).

Plate I. General information about the Second Realschule. Curricula of the Berlin Realschulen and of the official Realschulen.

Plate II. A graphic representation of the distribution of lessons according to the Berlin and the governmental curricula. Curves for the comparison of the distribution of lessons in the various subjects according to these curricula. The number of the lessons given to a normal pupil in the various subjects.

Plate III. The growth of the school. Six time-tables to illustrate the daily work of the school. A tabular statement of the attendance in the summer term of 1903, indicating also the birthplaces and domiciles of the pupils and their religion.

Plate IV. A graphic representation of the promotion from class to class. The callings of the parents of our pupils. The privileges of the Realschulen.

Plate V. The pupils who pass the final examinations. The number of such pupils since the founding of the school. Their age. The time spent in passing through the school. The callings chosen by the pupils who have passed the final examinations.

Plate VI. Photographs of the school-house and of the masters' dwelling-house.

Plate VII. Eight photographs of the rooms in the school-house.

Plate VIII. Eight photographs illustrating the teaching of gymnastics.

The drawings, plans, photographs, etc. were made by the teachers and pupils of the school.

German High Schools Abroad

whose final certificates confer the right to serve as one year's volunteers in the German army exist at

Antwerp, rue Quellin 27 (a six-class Realschule);

Brussels, rue des Minimes 21 (a Realprogymnasium of the German School Society, with six classes, three elementary classes, and fifteen teachers);

Bucharest (a Realschule of the Protestant community, founded as an elementary school before 1750, since 1873 a six-class Realschule. It has 343 pupils, besides 318 in the preparatory school);

Constantinople (a Realschule, founded as a Bürgerschule in 1867. Associated with this school there is a high school for girls. Its patron is the German and Swiss School Association in Constantinople. It has six Realschule classes, one preparatory class, and three elementary classes, besides seven classes for girls. The total number of pupils is 638).

These four German schools abroad have exhibited annual reports, pupils' exercises, photographic views of the school-buildings and of some classes and other photographs, school and examination regulations, forms used in the administration of the school, time-tables and printed matter, including two years' numbers of the pedagogical periodical "The German School Abroad".

The Higher Education of Girls in Germany.

Two headmasters of high schools for girls, Professor Dr. Wychgram of the Royal Augusta School in Berlin and Dr. Schmidt of the Municipal Sophia School in Hanover, have written detailed reports, which are attached to the special expositions of their schools, on the history and distinctive character of the higher education of girls in Germany. The most important contents of these reports are given in the following pages.

The high school for girls is a school with nine ascending classes and with higher aims than those of the elementary and intermediate schools. Its teaching staff is composed of masters educated at universities and training-colleges and female teachers, and two foreign languages are taught in it. It is not a special or professional school, but is intended to give its pupils, on a religious and moral basis, the general culture which enables them to prepare for the life-tasks that await them.

In former times it was not customary in Germany to send girls of the higher classes to a public school; they were taught at home by tutors and governesses, sometimes along with other girls of equal rank.

The history of our high schools for girls begins in the main only in the end of the eighteenth and the beginning of the nineteenth century; earlier attempts to give girls an education going beyond the aims of the elementary school, such as were made at the end of the seventeenth century by August Hermann Francke at Halle on the Saale and elsewhere, were not based on generally disseminated principles. The schools of this kind which arose in the first nine decades of the eighteenth century, the Countess Franziska von Hohenheim's École des Demoiselles for instance, were also on the whole mere imitations of French institutions. It was not till the pedagogical ideas of the Philanthropinists became influential that high schools for girls based on the conscious intention to train girls of the educated classes for their future tasks in their families and in society were established. At

first such schools were founded by private persons (for instance at Nordhausen, Blankenburg, etc.) or by companies (at Göttingen for example); but gradually the municipal authorities and the state governments participated more and more in the work. By far the greater number of high schools for girls have been founded by Municipalities since the forties of the nineteenth century. The year 1870 and the founding of the German Empire may be regarded as an epoch in the history of female education, for it was in the seventies that by far the greater number of the Municipal High Schools for Girls were founded.

The high school for girls which exhibits here is directly under the control of the Prussian Government; there are four such schools in Prussia, — the Royal Augusta School and the Royal Elisabeth School in Berlin, the Royal Louisa Endowment in Posen, and the Royal High School for Girls in Treves.

In the history of the development of high schools for girls in Germany, the German Society for High Schools for Girls, which held its first meeting at Weimar in 1872 and there laid down the principles of organization which have remained in force ever since, plays an important part. The said principles are the following. The course of instruction begins when the girls have finished their sixth year, and lasts till the end of their sixteenth; in the centre of the curriculum stand the ethical subjects, i. e. along with religion and history, above all the German language and German literature. Alongside of these subjects two foreign languages are diligently studied, namely French from the fourth year to the tenth and English from the seventh to the tenth. Mathematics and the natural sciences have hitherto been kept comparatively in the background, but a considerable extension especially of the mathematical subjects is in prospect. At the Royal Augusta School in Berlin four lessons in mathematics are already given every week in each of the three highest classes, though only experimentally and with the special permission of the Prussian Education Department, and it is likely that the intended reform of high schools for girls will take this direction.

Besides the public high schools for girls, of which with very few exceptions every little town has one, there are a great number of private schools, which differ very much

in their organization, some being on a par with the fully developed public establishments, while others are but little above the level of the elementary schools.

The training-colleges for female teachers are by preference united with the high schools for girls. In Prussia these establishments are of two kinds, namely, those that prepare teachers for the elementary schools only and those that prepare teachers for the intermediate and high schools for girls; the former give no instruction or very slightly developed instruction in foreign languages and aim lower in German and history, while in the latter, instruction in French and English is obligatory (compare the exhibited plates concerning its organization), and in German they teach literary history proper and in history not only the history of Germany but also that of other countries. Both kinds still have a three years' course. Further details will appear from a comparison of the graphic representations of the Royal Training-College for Female Teachers in Berlin and the Royal Training-College for Elementary Female Teachers at Burgsteinfurt.

Opportunities for giving the pupils of training-colleges for female teachers practice in teaching by means of practising-schools are not yet provided everywhere. Some training-colleges, especially the municipal ones for female teachers, practise their pupils at the high schools for girls attached to the colleges, others at the neighbouring elementary schools; the private training-colleges help themselves in a similar way. A ministerial order of the 15th January 1901 requires the establishment of special practising-schools everywhere. Since April 1st 1903 the Royal Augusta School has had a practising-school of its own, which already has three classes, and which, by Easter 1907, will be an intermediate school of nine classes with a foreign language in its curriculum. During a whole year (the fourth and fifth terms) the pupils of the training-college teach in this practising-school from nine to eleven o'clock daily. Comprehensive measures are taken to secure the complete attainment of the aims of the practising-school notwithstanding the circumstance that the pupils of the training-college practise in it.

(Professor Dr. Wychgram, Headmaster.)

The **Royal Training-College for Female Teachers** and the **Royal Augusta School**, Kleinbeerenstrasse 16—19, **Berlin, SW.** exhibit

1. 22 photographs of the building (outside views and rooms);
2. 17 volumes containing exercise-books of pupils of both establishments;
3. a considerable number of graphic representations (curricula and time-tables, statistics, budget-surveys, &c.).

The purpose of this exposition is to give an idea of the high schools for girls and of the training-colleges for female teachers which prepare their pupils for teaching in intermediate and high schools for girls.

A second high school for girls which exhibits here, the **Municipal Sophia School in Hanover**, illustrates also the

Gymnasium-Courses for Girls.

The Gymnasiums for girls owe their origin to the fact that in the beginning of the last decade of the nineteenth century the cultured class among the women of Germany awoke to the fact that Germany must follow the example of other civilized states and allow women to enter some professions which require university-study, and which, for the sake of their own sex, must be opened to women (medicine for instance), all the more as a great number of women are now required to earn their own living. The conviction, on the other hand, that gifted women, like gifted men, must be allowed to develop their intellectual forces and to attain by scientific study to professional work corresponding to their endowments, has induced women to render the preparation necessary for such study possible by founding gymnasiums, gymnasium-courses, or Realschule-courses for girls.

Almost all these foundations were and still are private enterprises undertaken by societies for the education of women, whose members raise the means for the maintenance of the schools, whereas the governments and also the towns maintained and still maintain a waiting attitude. The Women's Education Reform Society founded at Weimar in 1888 at the instance of Frau L Kettler, made a beginning in 1893 by founding the Girls' Gymnasium at Karlsruhe, which, organized in accordance

with the curriculum of the Boys' Gymnasium, was intended to conduct girls who entered it at the age of twelve to the final examination and thus to the universities. This first undertaking was not so successful as had been hoped.

Almost simultaneously with the Karlsruhe Gymnasium for Girls the "Gymnasium-Courses for Girls" were founded by Fräulein H. Lange in Berlin. The Prussian Government adhered to the principle recognized by it as right that the girls should first go through the nine-class high school for girls and acquire the general culture given there before beginning the studies preparing them for the universities, and this not in girls' gymnasiums proper, but only in so-called Gymnasium-Courses for Girls.

The Berlin courses rapidly gained public favour, and were soon followed by the Leipsic gymnasium-courses conducted by Fräulein Dr. Windscheid, and founded by the "General German Women's Society". Under the influence of other women's societies similar institutions came into existence at Königsberg, Stuttgart, Hanover, Munich, Frankfort on the Main, and Hamburg between 1898 and 1901.

Meanwhile alterations had taken place in the privileges conferred on the Prussian high schools for boys, according to which attendance at a Realgymnasium to the end of its course qualified for the study of medicine and all other studies except theology. In consequence of this the gymnasium-courses for girls in Berlin, Leipsic, Hanover, Breslau, Hamburg, Frankfort on the Main, and Baden-Baden were converted at Easter 1903 into realgymnasium-courses, so that now, besides the two girls' gymnasiums proper at Karlsruhe and Stuttgart, only the courses at Königsberg, Munich, and Cologne remained gymnasium-courses.

The good results of the Frankfort Reform Gymnasium for boys, and the recognition of the fact that a three or four years' preparation for the final examination of a gymnasium could not take the place of a real course of instruction at a gymnasium, whereas, on the other hand, it is desirable that girls who devote themselves to the higher studies should be sent to the universities thoroughly educated, probably induced the Prussian Ministry of Education etc. to allow admission to the courses at an earlier age, and to sanction six-years' gym-

nasium-courses or realgymnasium-courses at Charlottenburg, Schöneberg, and Cologne. Since Easter 1903 Charlottenburg and Schöneberg have had realgymnasium-subjects at their high schools for girls after the sixth school-year. In Baden and Wurtemberg girls are admitted to the existing gymnasiums for boys.

Organization. — The course of instruction is based on the nine school-years or on the first six school-years of the high school for girls (from the sixth to the twelfth year of life). It is organized in the main on the model of the Frankfort Reform Gymnasium.

In details, indeed, the gymnasium-courses for girls show many deviations from that curriculum; the nearest approaches to it are made in the girls' gymnasiums at Karlsruhe and Stuttgart.

The lessons in the gymnasiums and gymnasium-courses are given mostly by first-class teachers (Oberlehrer) of high schools for boys, who act here in a sub-office. They have, on the one hand, to bring the culture already acquired by their pupils at the high school for girls into harmony with the requirements of the scientific instruction of the gymnasium by supplementation and extension, while, on the other hand, in teaching the ancient languages and mathematics, which are new to their pupils, they have to begin with the elements. In both cases, however, the instruction must be given in a manner adapted to the intellectual development of the already grown-up pupils, and, in order to attain the purposes of the gymnasium, the new structure must be built up on that already existing. The pupils of these establishments, about 100 in number, who have already passed the final examination well in the presence of a governmental examining commission, have proved that gifted and well-prepared girls can do good work.

(Dr. Schmidt,
Headmaster of the Sophia School in Hanover.)

The Sophia School in Hanover (a high school for girls with gymnasium-courses) exhibits

1. photographs of the exterior and interior of the school-house and photographs illustrating the working of the school (in a frame);

2. a water-colour picture representing one of the walls of the school-hall with characteristic ornamentation;
3. seven ground-plans of the building (in a portfolio) and a description of its arrangement;
4. statistics of the Sophia School, its gymnastic exercises and games;
5. school-reports with a history of the Sophia School, a list of the teaching-appliances, a list of the books, the school-regulations, and a time-table;
6. the curriculum of the Sophia School;
7. a portfolio containing geographical drawings by pupils of the Sophia School;
8. exercise-books of pupils of the Sophia School;
9. the diary of the Sophia School with a list of absentees;
10. a clothes-stand of the Sophia School;
11. a placard-board showing statistics and the distribution of the lessons of the gymnasium-courses for girls;
12. a history of the gymnasium-courses for girls, statutes and reports of the Women's Education Reform Society;
13. curriculum and principles of the same and a list of the books used in the courses;
14. exercise-books of pupils of the gymnasium-courses;
15. the school-diary of the courses with a list of absentees;
16. on several placard-boards
    a) the number of lessons allotted to each subject by the curriculum of the high school for girls according to the regulations of 1894;
    b) a statement of the number of the high schools for girls in the various German states;
    c) the six-year gymnasium for girls;
    d) gymnasium and realgymnasium-courses with three to five classes;
    e) public high schools for girls with a realgymnasium-department.

Training-Colleges for Teachers of Both Sexes.

The Prussian Training-Colleges for Male Teachers. Francke's foundations in Halle, to which elementary schools

in general owe the most pregnant suggestions, may be regarded as the mother-establishment of the Prussian training-colleges for male teachers. The systematic founding of training-colleges for male teachers in Prussia is one of the works of Frederick the Great, but, as regards curriculum, method, the preliminary education of the pupils, and the equipment of the colleges, what he did was only a beginning.

A mighty impulse was given to the improvement of elementary schools and at the same time to the training of teachers by the efforts of Pestalozzi, which, especially in Prussia after her regeneration in the beginning of last century, fell on the most grateful soil. The Ministry of Education, which was founded in 1817, and the provincial school-boards which were created in 1825 did very much to promote the training of teachers on this basis. Equipment, curricula, method, time of training, and the final examination and second teachers' examination founded in 1826, showed the great progress of the new time. Till the middle of the century Harnisch and Diesterweg were the leading men.

When Falk was minister (1872—79), the General Regulations of October 15th 1872 were issued, which materially extended the aims of the training of teachers.

The most important turning-point in the training of Prussian teachers, however, came with the introduction of the new curricula of July 1st 1901, which brought the organization of the subject-matter of the teaching in the training-colleges up to date, deepened the whole scientific culture of the teachers, and freed it from its subordination to the professional training proper. At the same time the instructional provinces of the preparatory training-schools and of the training-colleges were sharply demarcated and brought into inner connection. The teaching of one foreign language is now obligatory both in the preparatory training-schools and in the training colleges.

The Prussian training-colleges for male teachers are under the royal provincial school-boards, of which the presidents of the provinces are chairmen. They are not reckoned among the higher establishments, and are for the most part confessionally separated. The staff of a training-college consists, as a rule, of the headmaster, one first-class master (Oberlehrer), and five training-college masters. The headmaster's salary is

4000—6000 marks, the first-class master's 3000—4500, and that of the training-college masters 2100—3800.

Every training-college for male teachers is organically connected with a one-class and a three-class practising-school. Only teachers who have passed the headmasters' examination or an examination of equal rank are appointed masters in training-colleges.

The further education of training-college masters is served by several state institutions,—the Institute for Church-Music, the Royal Training-School for Teachers of Gymnastics, and the scientific continuation-courses and drawing-courses in Berlin.

The preparatory education of the pupils of training-colleges is given for the most part in governmental or governmentally superintended preparatory training-schools. Privately prepared pupils must pass a preliminary examination. On entering they must not be less than seventeen or more than twenty-four years old. The instruction at the training-colleges is gratuitous and comprises three annual courses, the last of which especially is devoted to methodically practical training in teaching. At the close of the three years the pupils have to subject themselves to a final examination, the passing of which entitles them to be appointed provisionally to a scholastic office. It also confers the right to serve in the army as one year's volunteers. The qualification for definitive appointment in the school-service is acquired by passing a second examination, to which the teacher may subject himself at earliest after two at latest after five years, in order to give special proof of capacity to administer a scholastic office.

The qualification for appointment to intermediate schools or high schools for girls is acquired by a special examination. Finally, the qualification for appointment as headmaster of a training-college, as master at a training-college, as headmaster of a preparatory training-school, as district-inspector of schools, or as headmaster of a high school for girls or an elementary school with six or more ascending classes, may be obtained by passing the headmasters' examination.

(Dr. Kreisel,

Headmaster of the Royal Training-College for Male Teachers at Ziegenhals.)

The Royal (Catholic) Training-College for Male Teachers (without Lodgings for the Pupils) at Ziegenhals in the Province of **Silesia** exhibits

a plan of site of the place (a high-water map), a plan of site of the Training-College, six plans of the building, eleven photographs (a class-room of the Training-College, the drawing-classroom, a free quarter of an hour, the college-building, gymnastic exercises without apparatus, the college-hall, the staircase, gymnastic exercises with apparatus, a gymnastic game, a collection of teaching-appliances, the one-class school), lesson-books (ninety volumes), scientific dissertations by members of the college-staff (32 volumes), an account of the internal working of the College (in three volumes), two statistical cards concerning the Prussian training-colleges for teachers and the development of the Training-College at Ziegenhals, five curricula and time-tables.

The Training-Colleges for Female Teachers.

The following general information is extracted from the detailed report of Dr. Richter, headmaster of the Royal Training-College at Burgsteinfurt, which report is laid out in the exposition of his establishment.

Though female teachers had frequently been employed in the education of girls since (and in isolated cases even before) the Reformation, the first attempts at systematic preparatory training of female teachers date only from the beginning of last century. The first institution that was intended to serve this purpose was founded in 1803 with royal support by Ernestine von Krosigk in Berlin as the "Royal Training-School for Governesses"; it existed, owing to the difficult political circumstances of the time, only for a few years, and was replaced by the "Louisa Foundation" in Berlin, which was opened in 1811, and still exists. At the same time a Catholic clergyman named Bernhard Overberg served the cause of female teachers in the Munster country in the west of the kingdom by establishing "normal courses" for female teachers in 1801. From the outset a double tendency was noticeable, the training of Governesses and Female Teachers for

"superior girls' schools", and the training of Female Teachers for elementary schools.

In 1832 Prussia founded the Protestant "Training-College for Female Teachers and Governesses in Berlin" (now the Royal Training-College for Female Teachers attached to the Augusta School) and the Catholic Training-Colleges for Female Teachers at Munster and Paderborn in Westphalia. By 1866 the number of such establishments had increased to 39, and in 1901 Prussia had 45 training-colleges for female teachers in connection with public high schools for girls, 44 in connection with private high schools for girls, and eight independent governmental training-colleges for female teachers, in all 97 Training-Colleges for Female Teachers, not counting the private courses existing here and there, whose number cannot be ascertained. In 1833 there were only 289 female teachers in the Prussian elementary schools, in 1861 1755, in 1879 5050, and in 1900 11,000! In 1901 the total number of the fully employed female teachers in the Prussian governmental, municipal, and private schools was about 17,000.

On the 24th April 1874 examination-regulations were issued for female teachers and headmistresses, which were supplemented by the regulations of the 31st May 1894. The minimum age for admission to the examination for female teachers was now fixed at nineteen. The ministerial "Regulations concerning the Practical Training and the Examination of Female Candidates for School-Appointments" of the 15th January 1901 have proved of material importance to the further development of the training of female teachers. They laid special stress on regulated practical pedagogical training.

As regards the Female Teachers' Examinations the main facts are as follows.

The female teachers' examinations are conducted either as final examinations or before a special commission. All the governmental training-colleges for female teachers hold final examinations, and this right has been irrevocably granted to a number of municipal and private establishments. The final examination is conducted by the teaching-staff of the establishment under the presidency of a commissary of the provincial school-board. Candidates for office in elementary schools and in intermediate and high schools for girls are

examined together. The only difference is that the former may decline to be examined in foreign languages, and that somewhat less is required of them in German and history; in all other respects, however, there is no difference. The examination is theoretical (oral and in writing) and practical. The examination in writing comprises a German essay, arithmetic, geometry, and, if the candidates do not decline, foreign languages; the oral examination, as a rule, omits none of the subjects. The practical examination consists in a trial-lesson, given at a girls' school. Special importance is attached to practical pedagogical capacity.

The Royal (Protestant) Training-College for Female Teachers (a Boarding-Establishment) at Burgsteinfurt in the Province of Westphalia exhibits

1. framed photographs of the main building, of the hall, of the celebration of Christmas at the College, of the drawing-classroom and another classroom with pupils at work, of the covered gymnasium with a fancy-dress dance and with the first class at staff-exercise, of the physics-classroom, of a lesson in experimental chemistry, of a sitting-room, a bedroom, and a lavatory, of the staircase, etc.;
2. ground-plans and plans of site;
3. a table showing the distribution of the lessons in the College and the time-table of the practising-school;
4. two large tables concerning "Practical Exercises in Teaching";
5. the arrangement of the subject-matter for the religion-lessons at the College;
6. the arrangement of the subject-matter for the lessons in pedagogics;
7. a table concerning the meals of the boarders; several portfolios containing:
8. the curriculum of the College and a summary of the report on the teaching;
9. regulations and conditions of admission, regulations concerning examinations, regulations concerning the boarding-house, and an account of the hygienic arrangements;
10. the plan of organization, house-regulations, teaching-reports, and task-distribution of the practising-school;
11. written examination-papers with plans of the trial-lessons;

12. copy-books and exercise-books containing essays;
13. needlework done in the practising-school;
14. a placard giving a general survey of the Prussian training-colleges for the female teachers of elementary schools.

The Prussian Intermediate School

is illustrated by two municipal Intermediate Schools in **Stettin.**

Intermediate schools are establishments which serve general educational purposes, and are neither high schools, nor public elementary schools, nor technical schools, nor schools for adults.

Their organization and maintenance are not required of the communities by law; but the latter alone have to provide for the salaries and pensions of the teachers and for the maintenance of their families after their death. According to the general regulations of the 15th October 1872 the lessons are to be given by such teachers only as have proved their scientific qualification in accordance with the examination-regulations. The headmasters must have proved their qualification to conduct an intermediate school in the headmasters' examination, the headmistresses in the headmistresses' examination.

According to the "General Regulations" of Minister Falk the intermediate school was conceived partly in connection with the elementary school, partly as an independent school alongside of it. In the first-mentioned form it has found dissemination almost exclusively in the "rectorate-schools" of the small towns, whereas many of the larger towns have founded independent intermediate schools, or converted already existing "Bürgerschulen" and "Raised Schools for Girls" into intermediate schools; as, for instance, in 1873 Stettin converted its "Raised School for Girls", which had been founded in 1862, into the "First Municipal Intermediate School for Girls".

As a rule the normally organized intermediate school has developed during the last thirty years into a school with eight or nine classes, with instruction in one foreign language in the girls' and in two in the boys' schools.

As the curriculum of 1872 took only the boys' schools into account, that issued for high schools for girls in 1894 was in

many cases applied unaltered to the intermediate school for girls, because apart from foreign languages, it proposes aims which the intermediate school can attain. Hence it comes that the pupils of the lower and middle grades of the intermediate schools for girls may be admitted without misgivings to the corresponding grade of the high school for girls. A thorough study of the exhibited curriculum of the First Intermediate School for Girls at Stettin will show the correctness of this statement.

The curriculum of the Arndt School at Stettin (an intermediate school for boys), which also exhibits here, will show that, in determining the instruction to be given in boys' schools, ideal and practical considerations have been equally taken into account. The differences in the two curricula are based on the demands which life makes on boys and girls. In drawing up the curriculum of a boys' school those trades and occupations to which the male half of the middle class devote themselves must be more kept in view, whereas the curriculum for girls takes care first and foremost that they be suitably prepared for their domestic or industrial calling. What special differences are observable in the subject-matter of the instruction in foreign languages, which imparts to boys a greater knowledge of grammar, of arithmetic, of the natural sciences, of history and geography, may be clearly seen from the exhibited curricula. German, of course, is the dominant central subject both for boys' and for girls' intermediate schools.

In the drawing-lessons the girls are specially practised in composing monograms and needlework-patterns. In the boys' schools gymnastics is taught from the outset, whereas in the lower classes of the girls' school the form of unconstrained play accompanied by children's songs is preferred. No real instruction in gymnastics is given to the girls until they enter the middle classes, and in the instruction which is then given them it must be considered what exercises are specially advantageous for the female body and best fitted to favour its harmonious development. — To the more detailed report adjoined to the exposition, tables of school-statistics in manuscript are added.

(Waterstraat,
Headmaster of the First Intermediate School for Girls at Stettin.)

The First Municipal Intermediate School for Girls at Stettin, 5 Barnim Strasse, exhibits

1. a plan of site of this school and of the Arndt School;
2. a portfolio with ground-plans of the girls' School;
3. photographs of both schools;

4-7. models of the Stettin school-bench, the bench for the lessons in needlework, a drawing-table, and a stand for maps and pictures;

8. tables showing the distribution of the lessons, time-tables, and curriculum-tables;
9. a box containing the curriculum, a hygienic report, and three diaries;
10. framed photographs of a drawing-classroom and a gymnastics-classroom;

11-14. four boxes containing copy-books and exercise-books with dictations, essays, and French exercises;

15-19. five pasteboard boxes containing needlework done by pupils of the lower, middle, and higher classes.

The **Municipal Arndt Intermediate School for Boys at Stettin,** Barnim Strasse 6, (Headmaster Pagia) exhibits

1. a portfolio containing a ground-plan and estimate of cost;
2. pictures of the assembly - hall, the gymnasiic-hall, and the drawing-classroom;
3. a picture of a class playing in the school-yard;
4. a table of tasks, the time-table, and a table showing the distribution of the lessons;

5-11. seven portfolios containing diaries, copy-books, exercise-books with dictations, essays, and mathematical, French, and English exercises, the table showing the distribution of the lessons and of the subject-matter of instruction, and a table of statistics relating to hygiene and physical development;

12-14. models of a school-desk, a drawing-desk, and a map-stand.

The Lower Educational System.

The Berlin Elementary Schools.

Till 1827 the children of the poorer classes were instructed in parochial and private schools. A large number

of children got no schooling at all. So early as 1824 the municipal authorities in conjunction with the Minister of Ecclesiastical, Educational, and Medical Affairs resolved on educational reform. In consequence of this, Regierungsschulrat Dr. Reichhelm, (Government-Councillor for Schools), was elected a member of the Town Council and the reorganization of the schools for the children of the poor and the founding of public schools were entrusted to him. By the year 1850 fifteen municipal schools for poor children were opened; some of the children were still taught in the existing private and parochial schools at the expense of the city. In 1850 the Berlin elementary school exchanged the designation "municipal school for poor children" for municipal school ("Kommunalschule"), and since 1863 it has been called "Gemeindeschule". On the 1st January 1870 it was stripped of its character of a school for poor children, and has since then admitted children of all classes of the people and has given instruction gratis.

The external development of the elementary schools may be illustrated by some figures.

At the end of 1827 Berlin numbered 230,413 inhabitants, and had one municipal school for poor children with 300 pupils and 190 private elementary schools with 17,668 pupils. In 1860 the population had increased to 493,400, and 13,703 children were taught in 20 municipal elementary schools with 185 classes; in 1870 the population was 774,310, and 37,633 pupils were taught in 53 municipal elementary schools ("Gemeindeschulen") with 615 classes; in 1880 the population was 1,123,608, and 94,067 children were taught in 114 municipal elementary schools with 1742 classes; in 1890 the population was 1,579,980, and 173,183 children were taught in 183 municipal elementary schools with 3060 classes; in 1902 the population was 1,926,367, and 213,699 pupils were taught in 258 municipal elementary schools with 4493 classes.

The first public schools had two, three, or more ascending classes. After the abolition of the school-fees in 1870 the number of the classes was increased to six, on the 1st October 1900 to seven, and on the 1st October 1902 to eight. As many parallel classes are arranged as necessity calls for. The rule is, however, that no headmaster has more than twenty classes under him. The teaching-staff originally consisted of chief

teachers, assistant-teachers, and female teachers; the latter, however, gave only the lessons in needlework. From October 1st 1863 female teachers who gave scientific instruction were also appointed. The chief teacher was responsible for the maintenance of external order. The instructions of the year 1863 call him headmaster of the school, and in 1870 he became the immediate superior of the class-teachers. Since April 1st 1878 only teachers who have passed the headmasters' examination have been placed at the head of elementary schools. They bear the title of Rector.

The curriculum confined itself at first to the most necessary elements of religion, German, arithmetic, calligraphy, and singing; gradually, however, the schools began to aim higher. History, geography, natural science, geometry, and drawing were added. The instruction in the schools with six, seven, and eight classes was regulated by special curricula. Since the 1st October 1898 special classes have been arranged in the elementary schools for children of feeble intellect. The elementary schools are administered by the Municipal School-Board. The technical head is the municipal councillor for schools (Stadtschulrat), and he is assisted at present by twelve inspectors of municipal schools (Stadtschulinspektoren), who are at the same time royal inspectors of district-schools (Kreis-schulinspektoren).

(Scholz and Viergutz,
Headmasters of the 213th and 232nd Berlin Elementary Schools.)

The **213th Municipal Elementary School for Girls,** 18 Christburger Strasse, **Berlin,** NO., 55, exhibits

1. five framed photographs representing the celebration of Christmas at Mosse's Children's Home, the interval for breakfast, the gymnastic-hall, the needlework-class, and girls at play and at work in the Home, also a portfolio containing ten photographs of the fresco-paintings in the hall;
2. patterns for needlework, a pasteboard box with seven plates, needlework done in all the classes from the sixth up to the first;
3. plans and tables (the fundamental curriculum of the Berlin elementary schools, the time-table of the school, the time-table of a class, the time-table for bathing, the list of

teachers, and a table showing the attendance and the ages of the pupils);

4. three lesson-reports and a list of absentees;
5. four volumes of exercise-books containing class-essays, dictations, arithmetical and calligraphic exercises, business-essays, and a postal exercise-book;
6. a survey of the prescribed written exercises, a normal alphabet and normal regulations for copy-books;
7. lists of the headmasters, male and female teachers, catalogues of the teachers' and of the pupils' library, and of the existing appliances for object-lessons;
8. an annual report of the school, a report of the administration of the city of Berlin, a book entitled "Seventy-Five Years of the Berlin Elementary Schools" by Dr. Fischer, and a book entitled "The Development of the Berlin Elementary Schools" by Dr. Zwick;
9. lesson-books, reading-books, primers, and atlases in use at the 213th elementary school;
10. forms and legal regulations.

The **232nd Elementary School for Boys,** Glogauerstrasse 16, **Berlin,** SO., 36, exhibits

A. tables and surveys (the curriculum, a table showing the number of lessons given in the various subjects in the various grades, time-tables of the school and of a class, the plan of inspection, the time-table for bathing, the regulations for the intervals, a survey of the pupils according to their ages and their parents' positions in life);

B. pictures of scenes in the daily life of the school

(1. the celebration of Christmas in the school-hall by the children of the lower classes,
2. the sale of milk and distribution of rolls in the breakfast-interval for school-children in a room of the Boys' Home,
3. a class under the shower-bath,
4. a class being taught in the drawing-classroom,
5. a lesson in the gymnastic-hall;

C. exercises written by the pupils;

D. annual reports, lesson-reports, and lists;

E. teaching-appliances, including a "Singing Machine" by Headmaster Gusinde, a reckoning machine by one of the teachers named Genetat, a normal alphabet, a list of the apparatus used in teaching physics at the 232nd elementary school, lesson-books and atlases;

F. works relating to the Berlin schools. A list of the headmasters, teachers, and female teachers of the Berlin elementary schools. Periodicals.

The One-Class Elementary School.

In the one-class schools children of all ages within the limits fixed by law for compulsory attendance at school are taught simultaneously by one teacher in one room. The number of pupils of both sexes must not exceed eighty.

In the one-class elementary schools the children of the lower grade receive as a rule 20 lessons a week, those of the middle and higher grades 30, including gymnastic-lessons for the boys and needlework-lessons for the girls.

As a typical example, the one-class elementary village-school at Datum-Nienhöfen in the sub-district of Pinneberg in the province of Sleswick-Holstein has been selected. Its teacher (von Ende) reports as follows.

The one-class school at Datum-Nienhöfen is an elementary school of the simplest kind. In it 28 boys and 22 girls are at present taught by one teacher in one room. Their ages range from six to fourteen or fifteen. They are confirmed at fourteen or fifteen, and in this province confirmation and dismissal from school coincide. The aim of the school is limited by the regulations of 1872; it is to enable the children to embrace a calling not requiring a higher school-education. The external affairs of the school, such as the erection, maintenance, and furnishing of the buildings belonging to it, the keeping of the play-ground and gymnastic apparatus in good condition, income and expenditure, &c., are in the hands of the school-board, which consists of the local inspector of schools as president, the chief magistrate of the community, and three elected heads of families belonging to the community. The average income and expenditure of the school during recent years amounted to 2800 marks, the state contributing 500 marks.

The internal affairs,—the inspection of the work of the school, the examining of the pupils, dispensation from attendance, granting of leave of absence to the teacher, etc.,—are exclusively under the control of the local inspector of schools, the Reverend Bitterling of Rellingen, who is immediately responsible to the Royal Inspecting Board of the sub-district of Pinneberg (Landrat Dr. Scheiff of Pinneberg, and Kreisschulinspektor Paulsen of Dockenhuden), and, mediately, to the Royal Government of Sleswick.

The instruction is given in three grades,—the lower grade (two years), the middle grade (three years), and the higher grade (the last years). The subjects taught are religion, German (speaking, reading, and writing), arithmetic with the rudiments of geometry, drawing, history, geography, natural science, gymnastics for the boys, and needlework for the girls. In the one-class elementary school the lessons are distributed as follows: —

	Lower Grade.	Middle Grade.	Higher Grade.
Religion	4	5	5
German	11	10	8
Arithmetic and Geometry	4	4	5
Drawing	—	1	2
Natural History, History, and Physics	—	6	6
Singing	1	2	2
Gymnastics and Needlework	—	2	2 or 4
	20	30	30 or 32

lessons a week.

The girls of the middle and upper grades receive two extra lessons in needlework, so that they have 32 lessons a week in all. The lower-grade children, then, who remain in that grade for two years, get 20 lessons a week, the middle-grade ones, who remain in that grade three years, 30 or 32, and the higher-grade ones, who remain in that grade three or four years, also 30 or 32. In most subjects the children of the higher and middle grades are taught together.

The school-community of Datum-Nienhöfen belongs to the rural communities of Thesdorf and Halstenbek, Datum belonging to the former and Nienhöfen to the latter. The distance of the two places from Halstenbek and Thesdorf being about 3 to 4 kilometres (two miles or more), the school was founded

about 200 years ago. In 1877 a new school-house was built by the community instead of the very old one on the same site at Nienhöfen. As, however, it proved very damp, a new edifice had to be erected in 1893, the King contributing 6200 marks. The new school-house was built in the village of Datum about 600 metres (650 yards) from the old site, because the inhabitants of Datum offered a site gratis. Datum-Nienhöfen is about 7 kilometres (4 to 5 miles) from the town of Pinneberg, the capital of the sub-district of Pinneberg, 6 kilometres (nearly 4 miles) from the village of Rellingen, and 14 kilometres (nearly 9 miles) from Altona-Hamburg. From the railway-station at Halstenbek one travels to Altona in fifteen minutes.

The **village-school of Datum-Nienhöfen** exhibits four pictures of the school-house and its surroundings, nine pictures of scenes of school-life, illustrations of the rooms in the teacher's dwelling, ground-plans, a chronicle of the school, the curriculum, the distribution of the tasks, a lesson-report, a list of absentees, a report of punishments, a list of the existing teaching-appliances and a catalogue of the pupils' library, a time-table, the school-regulations, and pupils' exercise-books.

The municipal **Auxiliary School (for children of Feeble Intellect) at Stolp** in Pomerania (Teacher F. Frenzel) exhibits

1. a plan of the organization of the auxiliary school at Stolp in Pomerania (a printed table), giving information as to the organization and purpose of this school;
2. a curriculum, treating of the peculiar pedagogical methods in use at auxiliary schools, and drawing the limits of the teaching-games;
3. books containing photographs and descriptions of typical cases of feeble intellect;
4. written exercises containing descriptions and drawings by the pupils described in the books mentioned under 3;
5. photographs showing the pupils gathered together and teaching-scenes in special cases;
6. the publication entitled "The Organization of the Elementary School", giving a general survey of the work of auxiliary schools in Germany.

C.

The Education and Instruction of Persons who Have not All their Senses.

The Education of Deaf-Mutes in Germany.

The first isolated attempts made in Germany to teach deaf-mutes to speak were made in the eighteenth century. A physician named Willy Kerger taught a deaf-mute; a clergyman named Dr. G. Raphel taught his own three deaf and dumb children. Two other clergymen, O. B. Lasius and Arnoldi, also occupied themselves with the instruction of deaf-mutes. These men communicated their educational experience in books.

It was not till Institutions were established, however, that proper help was given to the deaf and dumb. The first institution for the deaf and dumb in Germany was opened by Samuel Heinicke in Leipsic in 1778. Three other institutions (at Berlin, Karlsruhe, and Munich) were also established before the end of the eighteenth century.

Germany now possesses 90 institutions for the deaf and dumb, in which 754 teachers (646 male and 108 female) teach 6700 deaf and dumb children in 686 classes.*

About 27½ per cent of the institutions are maintained by the state, 41 per cent by the provinces, 4½ per cent by municipalities, and 9 per cent by societies, while about 17½ per cent are private establishments. In 40 of the institutions the pupils live in the establishment, in 38 they do not, and

* We refer the reader here to the table entitled "A Statistical Survey of the Institutions for the Deaf and Dumb in Germany"

in 12 they live in the establishment during the first school-years, while the older pupils are boarded out.

The duration of the course of instruction varies between six and nine years. In 17 institutions it lasts six years, in 20 seven, in 52 eight, and in one nine.

Compulsary education for deaf-mutes is established by law in Saxony, in the Prussian province of Sleswick-Holstein, in the Grand-Duchies of Baden, Brunswick, and Oldenburg, and in seven other small states.

At Plauen (in Saxony) there is a preparatory school for deaf and dumb children; in Berlin the first Kindergarten for deaf and dumb children of ages varying from three to seven was opened in 1894, and in 1899 the Municipal Institution for the Deaf and Dumb had a lowest class added to it, to which deaf and dumb children are admitted from their fifth year onward, and which thus forms a preparatory school.

The German institutions for the deaf and dumb do not aim, as many such institutions in Holland, France, and other countries do, at completely training their pupils for a definite calling. Like the elementary schools, they propose to themselves the task of promoting the religious, moral, and intellectual culture of their pupils, and furnishing them with the knowledge and skill necessary for life.

To this end the German institutions for the deaf and dumb instruct their pupils in religion, German (articulative, intuitive, formal, and free instruction, reading, essay-writing), arithmetic, geometry, natural history, history, physics, gymnastics, calligraphy, drawing, and needlework.*

In spite of all opposition Germany has persistently adhered to the instruction of the deaf and dumb in the Lip-Language, and continues to develop it more and more. This method is therefore called the German Method in contrast to the French method, which employs written language, artificial gestures, and dactylology as means of instruction.

The lip-language method was founded by Heinicke and Jäger, reformed by Hill, Schibel, and Schöttle, and further perfected by Arnold, Walther and Vatter.

* See the curriculum of the Institution for the Education of the Deaf and Dumb at Frankfort on the Main in tabular form.

The Separation of the Pupils according to their Intellectual Capacity into A, B, and C classes is to be designated as an important improvement.

The serious Special Treatment of those deaf and dumb children who still have a Greater or Less Remainder of Hearing, and the cultivation of this remainder by means of special exercises in hearing or by methodical instruction in hearing, is also a very recent acquisition. Hofrat Professor Dr. Bezold of Munich is rendering great services in this direction.

The Teachers for the instruction of the deaf and dumb are Specially Trained in Germany. This preparatory training may be had at every institution for the deaf and dumb. For this purpose the young teacher enters the institution as an assistant-teacher, and prepares himself, either privately or under the guidance of the headmaster, for his speciality. After about two years he has to subject himself to the examination for teachers at institutions for the deaf and dumb. For this examination there is a royal examining commission in every Prussian province. The candidate must have passed the second examination for elementary teachers.

For Prussia most of the teachers of the deaf and dumb are trained at the Royal Institution for the Deaf and Dumb in Berlin, where also the examination for teachers of the deaf and dumb takes place. An examination for headmasters of institutions for the deaf and dumb is also held in Berlin every year.

Besides Prussia only Bavaria and Baden have special examinations for teachers of the deaf and dumb.

The "Society of German Teachers of the Deaf and Dumb", which was founded in 1894, numbers over 600 members. A "Society of Prussian Teachers of the Deaf and Dumb" was founded in 1900.

There are two Periodicals in Germany devoted to the education of the deaf and dumb, viz. the "Organ der Taubstummen-Anstalten in Deutschland" (Organ of the Institutions for the Deaf and Dumb in Germany), founded by Dr. Matthias in 1855, edited since 1881 by J. Vatter of Frankfort on the Main, and "Blätter für Taubstummen-

Bildung" (Leaves Devoted to the Education of the Deaf and Dumb), founded in 1887 by E. Walther of Berlin.

The periodicals "Blätter für Taubstumme" (Leaves for the Deaf and Dumb) by Streich and "Wegweiser für Taubstumme" (Guide for the Deaf and Dumb) by Franke serve the higher education of the deaf and dumb. Besides these there are some periodicals edited by deaf-mutes.

Homes for old and frail deaf-mutes exist in Bavaria, Saxony, Wurtemberg, and in the Prussian provinces of Sleswick-Holstein, Pomerania, and Silesia.

The Institution for the Education of Deaf-Mutes at Frankfort on the Main, which exhibits here, is a small Boarding-Establishment, which trains and educates its pupils — 40 in number — on the principle of Family-Education. Such an institution is decidedly preferable to all others. For more than one reason, and especially because it consistently carries out the lip-language method pure and simple, the Frankfort institution is everywhere regarded as a model.

Since 1900 it has had its quarters in a stately new building, surrounded by a garden of 70 ares (about $1^3/_4$ acre). A general view, ground-plans, and many photographs of rooms are exhibited. The teaching too is illustrated by several photographs. The exhibited exercise-books, drawings and specimens of hand-work also afford some insight into the work of the institution.

(J. Vatter, Headmaster, Frankfort on the Main.)

The Institution for the Education of Deaf-Mutes belonging to the City of **Frankfort on the Main,** 2 Gabelsberger Strasse, exhibits

ground-plans and photographs of the buildings of the Institution, pictures of the play-ground, the garden, the staircase, the drawing-classroom, the gymnastic hall, the staff of teachers, the dining-room, the dormitory, the lavatory, and the box-room;

plans, tables, and lists illustrating the working of the institution, class-registers and exercise-books, articulation-class, middle class, and upper class at lessons, illustrations of the lessons in gymnastics, gardening, drawing, manual skill, and handwork, and of the games, the statement of accounts for

the school-year 1902/03, a history of the institution (a jubilee-publication), the literature of the instruction of deaf-mutes;

(for the use of the teachers) treatises on methods, historical narratives, statistics, and periodicals relating to the education of the deaf and dumb;

(for the use of the deaf and dumb pupils) books for the object-lessons, language-lessons, and reading-lessons, and for the lessons in religion, arithmetic, natural history, history, and physics, and periodicals for the deaf and dumb.

The Royal Central Institution for the Deaf and Dumb in **Munich** (Bavaria), 70 Goethe Strasse, exhibits

1. four plates of photographs of plastic work in clay done by pupils of the institution, with a placard;
2. 50 copies of a description of the exhibited photographs by Hans Wild, teacher of deaf-mutes;
3. books intended to help deaf-mutes to learn to speak and understand on the basis of immediate observation, by Max Koller, Royal Headmaster.

The Education of the Blind in the German Empire

looks back upon a history of almost 100 years. The oldest German institution for the education of the blind is the Royal Prussian Institution for the Blind, which was established in Berlin at the state's expense in 1806 and removed to the neighbouring town of Steglitz in 1877. It owes its existence to King Frederick William III. Convinced of the need of education and the capacity for education of the blind by the success of the founder of the Paris Institution for the Blind, who was travelling to St. Petersburg with one of his pupils, and who repeatedly demonstrated the results of his teaching to the King, the latter entrusted Dr. Zeune, a master at a Berlin gymnasium, who was full of enthusiasm for the cause, with the opening and management of the institution, which was founded by cabinet-order on the 11th August 1806.

In South Germany the cause was promoted more by the meritorious example of a lawyer named Klein, a South German Protestant, who had the care of a relieving-district in Vienna. So early as 1804 he had made a private attempt to

teach a blind boy, and out of this attempt grew in 1808 the Royal and Imperial Institute for the Education of the Blind in Vienna.

Most of the German institutions for the blind which now gradually arose were founded by philanthropists or philanthropic societies. In course of years, however, several of them passed into the hands of the state or of private individuals.

The education of the blind in Germany has been most effectually promoted during the last thirty years, i. e. since the founding of the general congresses of teachers of the blind in 1873, which have been held ever since at regular intervals of three years, almost always on German soil and under German guidance.

At present the German Empire has 35 Institutions for the Education of the Blind (16 in Prussia, 19 in the other states) with at least 2500 pupils, and 26 Houses of Refuge for Educated Blind People (14 in Prussia, 12 in other states), some of them establishments where blind people advanced in years but able to work can earn their living (homes for the blind), others for blind people advanced in years and unable to earn (asylums for the blind), with about 1100 blind inmates.

A Law requiring all educable blind children to attend an institution for the education of the blind exists hitherto only in the kingdom and grand-duchy of Saxony, in the duchy of Brunswick, and in the grand-duchy of Baden, but is being agitated for in the other German states, especially in Prussia, where the provincial administrations are already bound to provide for the training and housing of all blind people without means who apply for such aid.

The German institutions for the blind, all of which, except the Municipal Institution for the Blind founded in Berlin in 1878, lodge and board their pupils, aim at imparting not only the necessary School-Education but also a thorough Training in some Calling, and are accordingly organized in two departments, a school-department and an industrial one. In the larger institutions the former department includes a preparatory school for blind boys and girls from five to nine years of age. Most of the pupils, however, are admitted in their ninth and dismissed in their twentieth or twenty-first

year, so that the whole school-time and apprenticeship last together ten to fourteen years.

Not only the totally blind but also extremely Weak-sighted children who do not make progress in the schools and workshops for young people who have all their senses are admitted. Persons of blameless life who have Fallen Blind in Later Years, and who have consequently lost their situations, are also admitted as day-scholars, in order to learn reading and writing and a calling by which they can earn their living. The course for such pupils lasts four years. In the case of children and adults who cannot pay for themselves, the expenses of training and board are defrayed at the public expense or from endowments and funds belonging to societies.

The School-Instruction of the Blind is based mainly on the sense of touch and the cultivation of manual skill, aims at the utmost possible self-reliance and freedom from dependence on the help of people who can see, extends to all the subjects taught at elementary schools, but makes frequent use of peculiar and expensive teaching-appliances and aids and of a special method. It makes large use of exercises in observation (exercise of the senses) in order to clear up and widen the narrow circle of conceptions, pays special regard to the occupations recommended by Froebel, modelling in clay and wax, drawing on felt cushions with needles and threads, working in wood and pasteboard, — all with a view to promoting the faculties of conceiving and forming, lays great stress on the development of bodily strength and dexterity by gymnastics and active games, walks and excursions, and favours singing and instrumental music, not as a means of earning money, but chiefly to cheer and elevate the mind.

One main task in the mental education of the blind lies, of course, in the appropriation and utilization of Print for the Blind, of which especially three kinds are taught, viz. Braille's raised Dot-Print (like the short-hand and international music-print derived from it) for private use and for correspondence with other blind people, Hebold's Line-Print and Klein's Prickle-Print for correspondence with the seeing. In some cases type-writing on the ordinary machines is also practised with good success.

The entertainment and further education of the pupils is served by the Valuable Dot-Print Libraries of the institutions for the blind, which have rapidly increased during the last ten years. Many books of this collection have been translated in manuscript from the ordinary print with sympathizing love by German women, and presented to the institutions (the Steglitz Institution alone possesses more than 3000 such volumes); the rest have been for the most part prepared for the press and reproduced by blind people, and published at the cheapest possible price by societies or institutions. Besides these libraries a Central Circulating Library for the blind of Germany, with Hamburg for its seat, is now being formed under the patronage of the famous ophthalmologist, Duke Charles Theodore of Bavaria.

The Training to a Calling, to which the four or five years after confirmation are almost exclusively devoted, is intended to make the pupils thoroughly able workers, and thus economically independent, in order that they, mostly poor as they are, may not have in later years to live on alms. Most of them, including the Girls, attain this end by learning a Trade, if care be taken that orders enough are received and the goods produced regularly sold. For this purpose each institution possesses at least one place of sale, and avails itself of every opportunity of drawing the attention of the public to the great importance of remunerative work for the blind. They are taught to plait chairs and mats, to make brushes, ropes, and baskets, to tune pianos, and, to a less extent, because this work is too unremunerative, to do needlework. Some are also employed in printing books for the blind, machine-knitting, or massage, while those who possess superior talents are trained to be organists or teachers of music or languages. Nor are cases wanting of blind persons who have studied at gymnasiums and universities with the best success.

When their training is ended the next task is to help those who are Able to Earn to do so, to gladden the Less Able by procuring them work, and to prepare a suitable place of refuge for the Unable and the old. For this reason the dismissed pupils generally remain all their lives in connection with their institution or with a provident society attached

to it, are furnished when they leave the institution with tools and working material, receive, if necessary, orders for work and loans of money to enable them to carry on their work, are obliged or permitted to insure themselves in the Insurance Office of the state against the dangers of invalidity and old age, can settle in a home for the blind or work in open workshops for the blind, temporarily, if they are men, permanently, if they are women, earning their living by their work, and find at last, when frail and isolated, more and more support and help in an asylum for working people.—It is in the further development of such extremely beneficent provident arrangements that the care of the blind in Germany has made most progress in the last ten years.

The following statistics afford a general survey of the present state of the care of the blind in Germany. They are based on the most recent researches and estimates, rounded off in the higher numbers, and refer without exception to All the German institutions for the blind.

1. The number of the German institutions for the Education of the blind		35
2. The number of the Provident Institutions for blind persons who have received training (Homes and Almshouses)		26
3. Total number of the pupils trained since the establishment of institutions for the education of the blind		13,000
4. The number of pupils now being educated . . .		2,500
5. Number of blind workers and blind persons unable to work in the provident institutions		1,100
6. Fully employed teachers, including headmasters .		165
7. Blind persons employed as assistant-teachers . .		54
8. Foremen or instructors and assistant-workmen . .		123
9. Annual expenses as stated in the estimates	2,600,000	marks
Of these	1,400,000	„
are derived from public sources, and .	1,200,000	„
from private sources.		
10. The value of the buildings and lands .	14,000,000	„
11. The value of the teaching-appliances .	260,000	„
12. The value of the school and house utensils	1,300,000	„

13.	The value of the articles made by the blind and sold by the institutions during last year	900,000 marks
14.	Wages paid last year to about 500 trained pupils (in the homes and open workshops for the blind)	130,000 „

J. Matthies,
Headmaster of the Royal Institution for the Blind at Steglitz.

The **Royal Prussian Institution for the Blind at Steglitz near Berlin,** 14 Rothenburg Strasse, exhibits

1. a painting of the Institution;
2. paintings of the homes for the blind founded by the Society for the Promotion of the Economic Independence of the Blind, attached to the Institution;
3. a plan of site of the Institution and the homes;
4. 33 photographs illustrating the arrangements and the working of the Institution;
5. a time-table of the Institution;
6. printed matter concerning the tasks and aims of the Institution and of the above-mentioned society;
7. books and a publication in dot-print, printed by pupils of the Institution;
8. teaching-appliances for reading, writing, arithmetic, geometry, geography, physics, object-lessons, and industrial lessons;
9. games for the blind;
10. work done by the pupils (specimens of Fröbel work done in the preparatory school, written exercises from several classes of the chief establishment, drawings, modellings in clay and wax, wood-work done by the boys, paper-pasteboard and bead work done by the girls);
11. specimens of work done by blind people in the workshops (plate-engravings, plaitings, brushes and brooms, basket-makers' and rope-makers' ware, needlework, and specimens of machine-knitting);
12. a copy of Piglheim's painting "Blind".

A complete list of all the articles exhibited is added; it contains also statements of their values or prices.

M. Kunz, headmaster of the **Institution for the Blind at Illzach** near Mülhausen in Alsace, exhibits

1. M. Kunz's Atlas for the Blind, containing 86 maps;
2. M. Kunz's Globe for the Blind, made of indiarubber;
3. M. Kunz's Zoological Pictures in Relief (89 pictures of animals on 36 plates);
4. M. Kunz's Botanical Pictures (leaf-forms and inflorescences, 104 pictures cn ten plates with explanations);
5. M. Kunz's Physical Drawings (25 plates with 130 drawings);
6. M. Kunz's Fraction-Calculator (No. 32 of the Institution-Catalogue);
7. M. Kunz's apparatus for illustrating square and cubic roots (No. 33 of the Institution-Catalogue);
8. Schollenbruch's Biblical History for the Blind in four volumes (No. 6 of the Institution-Catalogue);
9. Ploetz's Elementary Book of the French Language (No. 21 of the Institution-Catalogue);
10. M. Kunz's Prize-writing-tablet for the Blind, three writing-cards (No. 38 of the Institution-Catalogue);
11. M. Kunz's Annual Reports of the Institution for the Blind at Illzach, in German and French (2 volumes);

12 to 21. Pedagogical Essays by Headmaster Kunz on the Education of the Blind and the Teaching of Geography.

Special catalogues with the prices indicated are laid out in the Exposition.

Treatment and Education of Idiots.

The treatment and education of idiot (weak-minded) children did not receive any attention till the twenties of last century.

Guggenmoos, a teacher at Salzburg, founded there in 1828 (according to some in 1816) the first Idiot Asylum, which, however, had to be given up for want of the necessary means in 1835, since the authorities to whom Guggenmoos applied refused to give him pecuniary aid.

An Asylum founded by a Pastor named Haldenwang at Wildberg in the kingdom of Württemberg, was also unable to maintain itself long; its pupils became the first inmates of the Mariaberg Institute, founded in 1847.

General interest in the endeavours made to educate weak-minded children was first awakened by the Asylum of Dr. Guggenbühl on the Abendberg near Interlaken, which was founded in 1841.

From all the countries of Europe and from America physicians, teachers, and philanthropists came to Guggenbühl in order to learn from him. Unfortunately this man deceived those who came to him by promises which he could not fulfil, and thereby injured both himself and the cause. Nevertheless Guggenbühl has the merit of "having set in motion the great humane movement for the benefit of these poorest of the poor".

In the same year in which Guggenbühl opened his Establishment, arose the School for Cretins founded by Ferrus at the Bicètre in Paris. In 1837 Dr. E. Séguin began there his labours with Idiots, and acquired special merit by the publication of his opinions and experience in this field of teaching.

The oldest German private asylum was that founded by C. F. Kern in 1842 at Eisenach. In 1845 Saegert, the director of the deaf-and-dumb asylum at Berlin, opened an Idiot Asylum there.

The first government institution for idiots was opened in 1846 at Hubertusberg in Saxony, and there have gradually arisen, partly as private speculations, partly supported by corporations, by the state or by municipalities, 105 Idiot Asylums in Germany.

Of these 77 are presided over by schoolmen, six by physicians, one by an administrative officer. (Statistic Synopsis of Stritter, Hamburg 1902, Agency of the "Rauhe Haus".)

The first municipal Idiot Asylum is that of the city of Berlin at Dalldorf, which was founded in 1881 for weak-minded children capable of profiting by education. Under the guidance of an Educational Inspector the pupils receive an education of body and mind suited to their capacities.

The institution endeavours to promote the physical welfare of its pupils:

a) by regular and sufficient nourishment,
b) by plenty of fresh air, rich in oxygen,
c) by sufficient care of the skin (cleanliness, washing, bathing),

d) by suitable clothing,
e) by granting the necessary intervals of rest:
1. during lessons (sufficient pauses, only one hour at a stretch),
2. during work-time, by walks, games, etc.

The intellectual education of the pupils is conducted in a school of twelve classes under the care of six male and four female teachers. Besides this the boys are occupied in hand-work connected with bookbinding, gardening, basket-making, tailoring, carpentering and housekeeping, whilst the girls do house-work, needlework, and gardening.

Pupils are received at the age of seven years; at sixteen some of them go back to their parents, others go to suitable masters to learn a handicraft trade, or to farmers as aids in agricultural labours against a monthly payment of 20 marks on an average for board, lodging, and clothing.

The permanent supervision of the pupils sent out as apprentices or wards is undertaken by some reliable person (a pastor, teacher or magistrate) at the place where the pupil is living, whilst the Educational Inspector of the Idiot Asylum at Dalldorf goes twice a year (summer and winter) and visits each pupil to enquire and report concerning his conduct, progress, etc.

H. Piper,
Educational Inspector, Dalldorf.

The **Municipal Idiot Asylum** of the city of Berlin at **Dalldorf** exhibits:

1. Two tables of forms by H. Piper to cultivate the sense for form. By the aid of these tables exercises of action, exercises of hand and eye, exercises in distinguishing things are carried out.
2. Ten tables of figures, treating the numbers from one to ten and their fractional parts, by H. Piper.
3. Sewing-apparatus by H. Piper, which explains to weak-minded children (girls) the various kinds of stitches.
4. Five phonetic diagrams by H. Piper, which show the children the positions of the vocal organs for the different vowel-sounds.
5. Abnormities in the formation of the jaw, which occur in weak-minded children, and the defects of speech thereby

occasioned, together with a table of explanations, by H. Piper. (In a glass case.)

6. The Little Speaker (Der kleine Sprachmeister) by H. Piper, School picture book.
7. Writing-books "School-Hygiene" by H. Piper and J. Kelemen, for the first lessons given to weak-minded and short-sighted children.
8. Institutions for the curative education and maintenance of weak-minded, idiotic, and epileptic children in Germany and the other European States by P. Stritter, director of the institutions at Alsterdorf.
9. Writing-books and drawing-books of the pupils of the Municipal Idiot Asylum at Dalldorf.
10. Modelling work done by the pupils.
11. Handwork (needlework, etc.) done by weak-minded girls.
12. Annual report of the Municipal Idiot Asylum at Dalldorf.
13. Statistics concerning the Municipal Idiot Asylum.
14. Portrait of Professor Dr. Bertram, the founder of the asylum.

D.

Exhibition for Drawing and Artistic Wall-Decoration.

Both free-hand drawing and mechanical drawing are taught. In the lessons of free-hand drawing the naïve conception and manner of representation natural to a child, gradually develops to a systematic observation and representation of surrounding objects. From the very commencement real objects, as Nature or the hand of man creates them, are given as models. In all stages of teaching the colour as well as the form of an object is taken into account. Exercises in drawing from memory accompany the whole course of instruction. In the Elementary Schools and Intermediate Schools free-hand drawing goes as far as the representation of simple tools, utensils and plastic natural forms.

In the higher schools and in training-schools more difficult forms are given as models: buildings, landscapes, animals, and occasionally also the human figure.

Mechanical drawing is practised in special lessons. In the elementary and intermediate schools it goes as far as drawing to a scale, and the geometrical representation of simple models and utensils. In the higher schools and training-schools it includes higher geometrical drawing, chiar-oscuro, and perspective.

In the choice of models great liberty is allowed. To call the attention of schools to suitable material, an official List of Instructive Objects for Drawing Lessons is published. Of this three numbers have already appeared (P. Schahl, Berlin SO., Neander-Strasse 16) and may be had at the price of Mk. 1,50.

Hand in hand with the reform of the drawing-lessons goes the providing of school-rooms with artistic wall-decorations. As by the copying of aesthetically valuable models, so also by the continual presence of noble works of art, must the taste of the pupils be developed. For the promotion and explanation of these intentions the first Art Education Conference was held in the autumn of 1901 at Dresden. The minutes of this conference have been published by R. Voigtländer of Leipzig under the title "Kunsterziehung". Among other satisfactory results the Dresden conference has led to a large increase in the number of pictures suitable for our schools, that is to say pictures with real artistic merit, effective as wall-decorations, and at the same time not too expensive. Coloured lithographs in particular have been made specially for schools by distinguished artists. Much has also been done of late years in the way of popularizing the works of old masters by means of cheap yet good reproductions in sufficiently large form. Dr. Pallat, Berlin.

In this section are exhibited:

1. On the six cabinets of the side-walls and on the hinder wall: twelve volumes of drawings by scholars, displaying the **course of instruction** in the different kinds of schools (Gymnasium, Realgymnasium, Ober-Realschule, Realschule, High Schools for girls, Elementary School, Training-School, School for educating drawing-masters, School of Practice of an institution for training drawing-masters).
2. In the same cabinets: 34 portfolios with drawings by scholars of various institutions. In each portfolio are the productions of three or more scholars, of different qualities, done during their last year (or half-year) at school.

   Nos. 1 and 2 contain contributions from the following establishments: the Town Gymnasium of Stettin, the Town Gymnasium of Dortmund, the Royal Gymnasium and Real-Gymnasium of Flensburg, the Model-School (Town Real-Gymnasium) of Frankfort on the Main, the Town Gymnasium and Real-Gymnasium of Iserlohn, the Town Real-Gymnasium and Real-Schule of Altona, the Municipal Friedrich-Werder Ober-Realschule of Berlin, the Town Ober-Realschule of Bochum, the Ober-Realschule at Gross-Lichterfelde, the

Tenth Municipal Realschule of Berlin, the Catholic Realschule of Breslau, the Town Realschule of Erfurt, the Royal Augusta School of Berlin, the Empress Augusta Victoria School of Stettin, the High-School for Girls of the Francke Institution at Halle, the Town High-School for Girls of Hannover, the 9th, 24th, 33rd, and 167th Elementary Schools of Berlin, Boys' National School at Hannover-Linden, Royal Training-School at Reichenbach O. L., Royal Training-School at Delitzsch, Royal Training-School at Bromberg, Training-School for Drawing-masters and School of Practice at the Royal School of Art in Berlin.

3. On the large table in the centre of the room: **Drawing-Models,** as recommended by the official "List of Instructive Objects for Drawing Lessons", exhibited by the Albrecht Dürer House* (Sütterlin and Schöll), Berlin W., Kronen-Strasse 18. The models of animals were prepared at the establishment of Herr Sanders at Cologne.
4. On the small tables: Colour-boxes with water-colours and liquid, indelible drawing-inks, exhibited by Günther Wagner**, Hannover. Four drawing-stands of aluminium; on these stands one can use charcoal, chalk, or water-colours. Exhibitors: Hausmann and Latwesen†, Cassel.
5. On the side-walls: Two school wall-tables of aluminium. On these charcoal, chalk and water-colours can be used. Exhibitors Hausmann and Latwesen, Cassel.
6. Four photographs of the drawing-hall at the Model-School (Municipal Real-Gymnasium), Frankfort on the Main.
7. Drawing-board (the so-called Albis drawing-block) with moveable board and model-stand. Exhibitors: P. Johannes Müller & Co.††, Berlin SW. (See also Section **G.**)

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* Albrecht-Dürer-Haus (Sütterlin & Schöll) Berlin W. 8, Kronen Strasse 18, Appliances for teaching Drawing, Framed Pictures as Wall-Decorations for School and Haus.

** Günther Wagner, Hannover and Vienna. Manufactory of artists' colours, liquid indelible drawing-inks, writing-inks, and adhesives. The printed matter accompanying the exhibits gives explanations and prices.

† Hausmann and Latwesen (Carl Latwesen and Th. Benndorff), Factory for Metal-work, engraving, guilloche and stamping. Mechanical workshops. Cassel, Weser-Strasse 21.

†† P. Johannes Müller & Co., workshops for school-furnishing, Charlottenburg and Berlin SW., Hedemann-Strasse 15.

8. On the back wall above the cabinets: 22 coloured artistic drawings on stone (original lithographs) from the patterns of B. G. Teubner (Leipzig), R. Voigtländer (Leipzig), Breitkopf & Härtel (Leipzig); on sale at the Albrecht Dürer House, Berlin W., Kronen-Strasse 18.
9. On the back wall between the cabinets: three plaster casts of older plastic figures, toned in the colours of the originals: Boy praying—Adorant—(original in Berlin), Statuette of John the Baptist (orginal in Berlin), the man with the geese (Gänsemännchen)—original at Nuremberg. Exhibitor August Gerber, Cologne.
10. On the side-walls, right and left of the school wall-tables: four photogravures after the works of Dürer, Holbein, Rembrandt, and Franz Hals from the publications of the Society for the Diffusion of Classic Art at Berlin. Sale-rooms: "Albrecht Dürer House", Berlin W., Kronen-Strasse 18. Agent for the United States: A. W. Elson & Co., Boston, Mass. 146 Oliver Street.

Further exhibits are:

11. Konrad Lange's book: "The Art-education of Youth in Germany", and the first three numbers of the official List of Instructive Objects for Drawing-lessons (P. Schahl, Berlin SO. Neander-Strasse 16).
12. In the other rooms of the German School Exhibition are shown and distributed as means for instruction or as decorations:
    a) Instructive and decorative pictures published by Ferdinand Hirt (Breslau and Leipzig), the Orphan-house bookshop (Halle a. S.), E. A. Seemann (Leipzig), F. E. Wachsmuth (Leipzig), Wilhelm Plessmann (Munich), J. F. Schreiber (Esslingen and Munich) and other firms. Compare Section F., Educational Appliances.
    b) Additional Sculptures and Busts from "the Fine-art Establishment for classical sculptures, statues, busts, and reliefs—ancient, medieval, and modern", Augustus Gerber, Cologne (Chief Office for classical sculptures, Artist Studio Augustus Gerber, Cologne, Casts and Reproductions of statues, busts, and reliefs, antique, medieval, and modern). Bust of Homer (original at Naples); antique, in imitation bronze: bust of Cæsar

(original at Berlin); antique, in imitation granite: Cicero, Augustus, Sophocles, Demosthenes, Euripides; portrait busts, toned to imitate marble: Ernst Moritz Arndt, Amos Comenius, Diesterweg, Froebel, Herbart, Herder, Jahn, Melanchthon, Pestalozzi.

c) Portrait of Professor Heinrich Bertram, for many years Municipal School Inspector in chief, and now Honorary Citizen of Berlin. Exhibited by Wilhelm Fechner, Artistic Photographer, Berlin W., Potsdamer-Strasse 134 a. Compare the Exhibit of the Second Real-Schule (Berlin) in Section **B.**

d) Portrait of Queen Luise of Prussia, lithograph by Fräulein Lina Pommerening, Berlin W., Winterfeldt-Strasse 7 (Portrait-painter). The original painting hangs in the Royal Castle at Berlin. The frame is made in the style of Queen Luise's time after an original in the Hohenzollern Museum at Berlin.

(Pallat-Berlin.)

E.

Exposition for Gymnastics, School-Sport, and School-Hygiene.

The first beginnings of our Gymnastic Instruction are to be found in the so-called "Dessau Philanthropinum", a school which was opened in 1774 under the superintendence of Johann Bernhard Basedow. To Basedow belongs the merit of having first introduced the culture of the bodily powers into school routine, and Dessau was the first place in which gymnastic exercises formed a part of school instruction.

The next step was taken by Joh. Christopher Guts Muths, born in 1759 at Quedlinburg, who was the teacher of the celebrated geographer Karl Ritter at Schnepfenthal. (See model of the monument at Quedlinburg representing Guts Muths and his pupil Karl Ritter.) He is still regarded as an authority in the field of simple, natural gymnastics, both practical and theoretical. He wrote a beautifully arranged work on the subject and brought the stores contained in ancient classic writers within the reach of his contemporaries.

Joh. Heinrich Pestalozzi, born 1746 at Zurich, reduced gymnastics to a science. It was he who declared the culture of the bodily powers to be an imperative requirement of all sensible school education.

Friedrich Ludwig Jahn, on the other hand, who was born in 1778, placed Gymnastics in the centre of national life, and regarded bodily training as a duty owed to the Fatherland. He is the Father of German Gymnastic Associations.

Though differing on many points, all these patriarchs agreed on one point: they regarded gymnastic exercises as a part of the pure natural enjoyment of life. Every useful exercise in the open air was welcome to them for the attainment of their ends.

Yet dark days were to follow. Suspicions of various kinds led to the entire suppression of gymnastics in Prussia in 1820, and most of the other German States followed the example set by Prussia. This prohibition paralyzed for a long time the efforts of those who had the cause of gymnastics at heart. The man who at last saved gymnastics and brought them gradually into repute again was Ernst Eiselen, a pupil of Jahn's. He made it his task, in quiet retirement, to augment the already collected material for teaching gymnastics, and worked indefatigably at the development of systematic gymnastic instruction.

The recognition by the Royal Prussian government, on the 6th of June 1842, that bodily exercises formed a necessary and indispensable part of male education, opened the way once more to the friends of gymnastics to carry out their ideas in practice.

The newly introduced school gymnastic exercises found a courageous champion in Adolphus Spiess, born in Hessen, in 1810. He carried out the ideas of Pestalozzi and placed the crown on the head of gymnastic instruction, for by his exertions it came about that a place was made for gymnastics in the curriculum of every school; even the separate classes were to be separately instructed. Gymnastics have become an obligatory part of school teaching and are taught, where possible, by the regular class-teacher himself. The services of Spiess as regards Gymnastics for Girls cannot be passed over without their mede of praise. In his further endeavours, however, he fell into the mistake of confounding the terms Education (Erziehung) and Instruction (Unterricht). In his hands arose the unnatural separation of Fancy Gymnastics (Kunstturnen) and Popular Exercises (Volkstümliche Übungen). The hall as a place for gymnastic exercises came more and more in vogue. With the idea of "Class teaching", naturalness disappeared. Nevertheless Spiess's literary services deserve high praise.

The war of 1870—71 was destined to infuse fresh life in the schools of gymnastics. These years of warlike even naturally made people look back to the times of Guts Mut and Jahn. The teachings and warnings of these men acquir new force and began to repulse the then prevailing, pur pedagogical system. This was more particularly seen in t case of the higher schools during and since the eighties, b the other schools have followed in the same direction. To t Emperor William the Second belongs the high merit of havi raised the cultivation of bodily powers to the position whi its importance and the spirit of our age demand for it. The word Gymnastics (Turnen) enjoys once more the same amp e meaning which Guts Muths and Jahn gave to it. The Games Movement has had large possibilities opened out for it by ministerial injunctions and by the restless endeavours of the "Central Committee for Promoting Games", founded by von Schenckendorff. Extensive playgrounds for whole parishes (see Walter Simon-Platz in Königsberg), for particular schools (see Neuwied), and for the working population (see playgrounds in the industrial district of Gelsenkirchen) have been laid out, and teachers, male and female, have been enabled by special courses of instruction, to aid in the spread of the Games Movement (see Table of the special courses of the Central Committee).

Aquatic Sport, i. e. Swimming and Rowing, has continued, under the warm patronage of His Majesty, to gain more and more friends, and Pedestrian tours through woods and fields have cherished the love of Nature among the rising generation.

In this Section are exhibited:

a. Models.

1. Model of the Guts Muths monument at Quedlinburg, which was unveiled in February 1904, and shows Guts Muths with his pupil Karl Ritter. Exhibitor: Sculptor Prof. Richard Anders in Berlin W., Kurfürsten-Damm 130.
2. Model of Gymnastic Hall of the Elementary-School at Steglitz-Berlin. Exhibitor: A. Buczilowsky, manufacturer of gymnastic apparatus, Berlin W., Blumenthal-Strasse 13.

3. Models of gymnastic apparatus: Bars of wood, bars of iron, vaulting-horse, jumping-cloth with wooden foot, the same with iron foot, two jumping-boards, pillars for horizontal bars, etc. Exhibitor: Oswald Faber, manufacturer of gymnastic apparatus in Leipzig-Paunsdorf.
4. Model of a four-oared boat, with oars. Type of a practice-boat for schoolboys. Exhibited by Fr. Lürssen of Aumund-Bremen.

b. Plans and Pictures.

5. The people's gardens and playgrounds in the industrial district of Gelsenkirchen. Exhibited by the Royal Landrat's Office, Gelsenkirchen.
6. Playground of the schools at Neuwied, with the boat-house of the Royal Gymnasium. Exhibitor: Prof. Dr. Deipser of Neuwied (Society for Promotion of Games).
7. The Walter-Simon Platz, public playground at Königsberg. A picture in frame. Exhibited by the Board of Magistrates of the city of Königsberg.
8. The Introduction of Movement games by the Central Committee for promoting games in Germany. Synoptical table, exhibited by Prof. Wickenhagen of Schöneberg-Berlin.
9. Comparative value of different bodily exercises. Two tables (each in both German and English), exhibited by Dr. J. A. Schmidt of Bonn on the Rhine.
10. Rowing in the higher schools of Germany. 24 pictures exhibited by Prof. Wickenhagen of Schöneberg-Berlin.
11. The Swimming-lessons at the Elementary schools of Hamburg. Six pictures, exhibited by School-inspector H. Fricke of Hamburg.
12. The Swimming-lessons at the Elementary schools of Hannover. Six pictures, exhibited by Prof. Dr. Kohlrausch of Hannover.
13. The Swimming-lessons at the schools of Dresden. Two pictures, exhibited by Oberlehrer Klähr of Dresden.
14. The Eisleben "Kaiserjungen" (Emperor's Boys), two photographs: 1. Music-band of the Eisleben Elementary schools. 2. The Eisleben "Kaiserjungen" before the Emperor. Exhibited by the Town Council of Eisleben.

15. Two photographs representing the bathing-room and dressing-room in one of the newest town-schools, Frankfort on the Main. Exhibited by the Town Council.
16. Nine photographs of the Guts-Muths-Realschule at Quedlinburg am Harz. See Section F. School Exposition of the Towns of Germany.
17. The School-flag of the Guts-Muths-Realschule at Quedlinburg.
18. Six pictures of scholars of the Guts-Muths-Realschule assembled for a tour in the Harz mountains, their games and military exercises there, etc. — Exhibited by Director Dr. Lorenz.
19. Photographs from the Elementary schools of the city of Posen: the feeding of poor scholars in the fifth town-school, etc.
20. Director Emil von Lange's Measuring-tables (for entering the growth of scholars); may be used in schools, families, reformatories, etc. Exhibited by J. F. Lehmann, publisher, Munich.

c. Books, etc.

Books, and also some periodicals and other printed matter* referring to Gymnastics, School-Sport, and School-Hygiene have been exhibited by the following firms and persons (the authors who exhibit their own works are distinguished by an asterisk prefixed to their names):

C. H. Beck (Munich), O. Bonde (Altenburg), A. Braun & Co. (Berlin, now Martin Oldenbourg in Berlin), J. G. Cotta (Stuttgart, Berlin), Fischer, medical publisher (now H. Kornfeld, Berlin), Gustav Fischer (Jena), R. Gaertner (H. Heyfelder, now Weidmann, Berlin), G. J. Göschen (Leipzig), Grethlein & Co. (Leipzig), Max Hesse (Leipzig), Ferdinand Hirt (Breslau and Leipzig), J. F. Lehmann (Munich), F. Leineweber (Leipzig), R. Lion (Hof in Bavaria), Kesselring (Leipzig), C. Meyer (Gustav Prior, Hannover), O. Nemnich (Wiesbaden), Martin Oldenbourg (Berlin), H. Paetel (Berlin),

* A systematically arranged, exact list is to be found along with the exhibition. The works are arranged under the following headings: I. Anatomy, Physiology and kindred subjects. II. History and Encyclopædia. III. Methodics and Didactics. IV. Schoolhygiene. V. Games and School-Sport. VI. Gymnastics proper. VII. Aquatics—Swimming and Rowing. VIII. Periodicals.

A. Pichler's widow and son (Vienna, Leipzig), Priebatsch (Breslau) (has exhibited Professor Cohn's table for testing the range and strength of vision), *E. Rietz M. D. (Berlin W., Dennewitz-Strasse 10), *F. A. Schmidt M. D. (Bonn a. Rh., Koblenzer-Strasse 23), R. Schoetz (Berlin), Schulhaus Verlag (Berlin-Tempelhof), K. Sieke (Rendsburg), J. Springer (Berlin), Elwin Staude (Berlin), Eduard Strauch (Leipzig), B. G. Teubner (Leipzig, Berlin), E. F. Thienemann (Gotha), Velhagen & Klasing (Bielefeld, Leipzig), R. Voigtländer (Leipzig), Leopold Voss (Hamburg), The Orphan-House (Halle a. S.), J. J. Weber (Leipzig), Publishers of "Wassersport" (see: M. Oldenbourg, Berlin), Publishers of the "Schwimmer-Zeitung" (Charlottenburg), Weidmann's publishing-house (Berlin), *Professor Wickenhagen (Schöneberg, near Berlin, Ring-Strasse 7).

(The more precise addresses of the publishing firms will be found towards the end of this Special Catalogue in Section **G.**)

(Wickenhagen, Berlin-Schöneberg.)

F.

School Exposition from the Towns of Germany.

(The objects exhibited in this section are distinguished by green numbers.)

Barmen.

— Real-Gymnasium. Plans, &c. Built 1901—1903 on the hill-side. Gradient of street 1 : 8. Costs of erection 600,000 M. See Section B (Kinds of Schools).

1. Public Elementary School in the Klee-Strasse. Plans, &c. Built 1900—1901. Costs of erection 285,000 M. In the building three 8-class systems with separate playgrounds. On the ground-floor a shower-bath and a School of Cookery.

Berlin.

2. Plan of a Double Elementary School in the Christiania-Strasse. Model of the whole 1 : 25; Ground-plans and Photographs. Costs of erection 719,000 M. Corridors with doors on one side only. The buildings include a teacher's dwelling-house, the Gymnastic Hall, and a Street-cleaning Depôt.

3. Plan of an Elementary School in the Grenz-Strasse. a) Plans, Drawings, and Photographs; b) Model of entire school and teacher's dwelling-house 1 : 25; c) Model of the bay-window of the teacher's dwelling-house 1 : 5; d) Model of the pillar-bands of the staircase-pillars 1 : 1; e) Model of the school-gate 1 : 1. Costs of erection 403,100 M. Specimen of a plain Elementary School. Detached school-building.

4. Plan of a Double Elementary School in the Wiclef-Strasse with teacher's dwelling-house facing the Emdener-Strasse.

a) Model of the façade of the school-building 1 : 10; b) two models of Reliefs on the school-house 1 : 1, showing boys coming from and girls going to school; c) Model of the façade of the teacher's dwelling-house 1 : 10. Costs of erection 712,000 M.

5. Plan of a teacher's dwelling-house with People's Reading-room in the Waldemar-Strasse. One sheet showing façade. Costs of erection 95,200 M. Characteristic reference to People's Reading-room on façade.

6. Plan of a Double Elementary School in the Waldenser-Strasse. a) Drawings; b) Model of the Portal 1 : 5. Costs of erection 663,000 M. Peculiarity of ground-plan. Both buildings connected by a corridor, near which the closets.

7. Plan of a Double Elementary School with teacher's dwelling-house in the Wilms-Strasse. a) Plans, Drawings and Photographs; b) Model of the façade of the teacher's dwelling-house 1 : 10. Costs of erection 629,000 M. Peculiarity of ground-plan made necessary by shape of the building-site.

8. Double Elementary School in the Rigaer-Strasse, Photographs. Costs of erection 725,000 M.

9. Double Elementary School in the Duncker-Strasse, Photographs. Costs of erection 751,300 M.

10. Plan of a Handworker-School on the Stralauer Platz. a) Ground-plans and Drawings, b) Model of the whole 1:50, c) Model of the Side Portal 1:5. Costs of erection 754,000 M. The building contains, besides the class-rooms proper, a large number of school-workshops for various branches of hand-work, as for smiths, painters, photographers, etc.

11. Plan of the Gymnastic Hall of the Gymnasium "Zum Grauen Kloster". a) Drawing, b) Model of the terra-cottas representing bears at gymnastic exercises. 1:1. Costs of erection 89,300 M. Style: Visible brickwork, to correspond with the adjoining church "Kloster-Kirche." Above the Gymnastic Hall are Library and Lecture-rooms.

12. Hall with rooms for play-apparatus and with urinals, in the Friedrichs-Hain, on the playgrounds for scholars of the town-schools. Photograph. Costs of erection 32,000 M. — This hall serves also as a place of shelter for the public in bad weather.

— Special Exhibitions of the 2nd Town Realschule and of the 213th and 232nd Berlin Elementary Schools, as also of the Municipal Institute for Idiots at Dalldorf (Educational Inspector Piper), see Section B (Kinds of Schools).

— School-map of Berlin, see Section A (General remarks). On this plan of the city, proceeding from the Geographical and Cartographical Institute of Julius Straube, Berlin S.W., will be found all Berlin's Governmental Municipal, and Private schools — higher, intermediate, and elementary — as well as Seminaries and Colleges.

13. Four framed photographs: Berlin school-houses of the olden time.

14. One framed photograph: Playground of the Elementary school at Berlin, Wilhelmstrasse 117.

— The book of Dr. Zwick, Berlin School-Inspector: "The Development of the Elementary School System in Berlin." Several copies have been placed at our disposal by the Berlin School Deputation.

15. Berlin's system of Continuation-Schools and Professional Training-Schools (arranged by Director Hrabowski of the Berlin Gewerbe-Saal):

I. Four General Synoptical Tables:
1. Berlin's Continuation and Technical Schools.
2. The scholars of Continuation and Technical Schools classed according to their trades.
3. Subjects taught in the Continuation and Technical Schools for young men, in the year 1903.
4. Subjects taught in the nine Continuation-Schools for girls in the year 1903.

II. Twenty special Statistic tables from the Technical and Continuation Schools, concerning School-attendance, number of weekly lessons, and annual cost. 1. First Handwork-School, 2. second Handwork-School, 3. School of Carpentry, 4. Technical School, 5. School for Weavers, 6. School for Builders.

III. Sixteen Photographs:
1. Six photographs of Workshops of School of Carpentry.
2. Six photographs of Workshops of Technical School.

3. One photograph of Lecture-Hall of Technical School, as used for Drawing-classes.
4. Three photographs of the Workshops and class-rooms of the Second Handwork-School.

16. Arranged by the Berlin School Deputation.

A. Concerning Continuation Schools:

1. Report of Management of the Municipal Continuation Schools, for 1902.
2. Special Balance-sheet, No. 18, for 1903.
3. Synopsis of the Continuation School System and the Technical-School Institutions, February 1903.

B. Documents referring to the erection of Intermediate Schools — Realschulen.

C. Instructions for the Directors of Private-schools.

D. Graphic representation of the Development of the Elementary School System in the city of Berlin from 1820 to 1902.

E. Table containing the numbers of classes and teachers, and the distribution of classes and pupils in the different stages of instruction from 1878 to 1902.

F. Reports and Instructions, regarding Elementary Schools:

1. School Deputation's report of administration for 1902.
2. Special balance-sheet for 1903.
3. Fundamental curriculum for the Berlin Elementary Schools.
4. Instructions for the Directors of the Elementary Schools.

G. Control of School Attendance and School-Commissions:

1. Regulations for controlling school-attendance.
2. Instructions for the School-Commissions.
3. Rules for the meetings of the chairmen of School-commissions.
4. Rules for the granting of school appliances to scholars whose parents are destitute of means.

H. Regulations regarding Elementary School-Houses:

1. Regulations for the use and maintenance of teachers' and other resident servants' dwellings.
2. Regulations for the management of the school-houses themselves.
3. Regulations for the use of the shower-baths.
4. Rules and regulations for the school-porters at Elementary Schools.

J. School-Hygiene, School doctors, Additional lessons:

1. Directions for avoiding the transmission of infectious diseases.
2. Rules and regulations for the School doctors of the Berlin Elementary Schools.
3. General directions concerning Additional lessons with formula for half-yearly report.
4. Principles for the establishment of special classes for stammering children, etc.

K. Care of Children during Holidays:

1. Report for 1902 of the Berlin Society for Vacation-Colonies.
2. Report for 1902 concerning the results of the Vacation-Colonies in Germany.

Bielefeld:

17. XI. Intermediate School, Plans. Built 1901. Costs of erection 230,000 M. Arrangement of Gymnastic Hall occupying basement and ground-floor, and further utilization of cellar-story for shower-baths and milk-rooms. Employment of Rettig's improved school-desks. Trial of terrazzo floors in some of the class-rooms.

Bochum:

— Special exhibition of the Municipal Ober-Realschule, see: Section **B.** Kinds of Schools.

Breslau:

18. Report of Administration &c. a) Report concerning the Municipal Gymnasium Classes for Girls. b) Report of the development of the "Heilige Geist Gymnasium and Real-Gymnasium" as Reformed Schools, together with programmes of the Institution. c) Plan of the organization of the Municipal Continuation and Technical Schools.

19. Statistic statements in tabular and graphic form concerning the numbers of scholars and teachers, numbers of classes and of the pupils composing them, salaries of teachers, &c.

20. Pestalozzi-School. Drawings and Photographs. Elementary school consisting of two school-houses with (together) 80 classes, a gymnastic-hall, and a master's dwelling-house. Costs of erection 912,000 M.

21. Elementary-schoolhouse in the Fürsten-Strasse. Drawings and Photographs. 30 classes, Gymnastic-hall and Master's dwelling-house. Costs of erection 420,000 M.

22. Intermediate School for Boys on the Teich-Acker. Drawings. Costs of erection 228,000 M.

23. Evangelical Intermediate School for Girls IV with Gymnastic-hall. Drawings and Photographs. Costs of erection 265,000 M.

24. The Elisabeth-Gymnasium with Headmaster's dwelling-house and Gymnastic-hall. Drawings and Photographs. Costs of erection 540,000 M.

25. Great Botanical School-garden at Scheitnig, Breslau. Plan. This garden has existed since the year 1889 and supplies living material for the Natural History lessons in the Municipal schools of Breslau, serving also in its systematic arrangement as a field of study for the teachers. The scholars are also brought into the garden to study the growing plants.

26. Horticultural Station on the Gabitz-Acker in Breslau. Plan, photograph (showing scholars at work), and special Report. In this Horticultural station, provided for scholars in the upper classes of the elementary schools, every boy cultivates, in his free time and under the guidance and direction of a teacher, the garden-bed allotted to him. The seeds, plants, etc. are supplied at the expense of the municipality. The crop is the property of the scholar.

27. Cookery and Housekeeping Schools, Prints, Drawings and photographs of the schoolrooms.

28. Municipal School-Museum: a) View of Interior; b) Printed works (Catalogue, Guide, Annual report).

Cassel:

29. Auxiliary School (Elementary school for weakminded children). Drawings. Costs of Erection 109.000 M.

Charlottenburg:

30. Drawings of the building of the Polytechnic and Handwork School and Model of the building of the People's Library and Reading-room. Built 1899 1902. Costs of erection 660.000 M.

Chemnitz:

31. Cookery-School Building. Plans and photographs. Costs of erection 11,526 M. The building serves the purposes of the Cookery-School only.

32. Ground-plan and Cultivation-plans of the School-Botanical Garden.

Darmstadt:

33. Double Intermediate School in the Bessung quarter of the town — for boys and girls. Drawings. Built 1902/1903. Excellent ground-plan. Estimated costs of erection 540,000 M. Value of building, site 228,975 M.

34. Plan of site of Workshops for boys.

Dresden:

35. Curriculums, graphic presentations, etc.: a) Synoptic view of the Curriculum of the New Gymnasium in Dresden-Johannstadt, based on the Frankfurt reformed curriculum, in comparison with the Humanistic and Real-Gymnasiums of the old type. b) The curriculum of the Dresden District Schools. c) Tables showing the increase in the number of scholars during the last 25 years. d) Tables of costs for the entire school-system of Dresden and for the different kinds of schools. e) The same for private benevolence.

36. School museum for promoting knowledge of the Fatherland: a) Geology: Objects found, profiles, maps, reliefs showing the geological features of the Fatherland. b) Meteorology: Illustrations of temperature, wind, precipitations of the atmosphere, thunderstorms etc. of the Fatherland. c) Botany: Plan of school-garden. Employment of vegetable substances in home industries. d) Zoology: Aquatic animals and birds in school recreation-grounds at Dresden, arthropods of the Fatherland in live examples, preparations, models and pictures. e) Earliest history: Objects found at different periods of prehistoric times (Age of stone, of bronze, of iron) together with maps, pictures, and models. f) Geography and history: Models, reliefs, plans, maps, pictures illustrating the conformation of the surface of the country. Plan of the city and fortress of Dresden. g) Traffic: Apparatus, models and pictures illustrating the traffic on the Elbe and its banks.

37. Scholars' handwork from the School-workshops (Handfertigkeitsschulen) of the Dresden Society for General Usefulness (gemeinnützigen Verein), representing a course of instruction: a) Introductory (paper, clay, and wicker), b) in papier-maché, including Christmas-tree ornaments, c) planing work, d) chip-carving and chamfering, e) metal-work.

38. Photographs from the School-workshops. The Dresden Society for General Usefulness cultivates the teaching of Manual Dexterity with a view to promote the education of young people by making them clever and useful through manual dexterity, to train teachers of manual dexterity, and to give friends of manual dexterity the opportunity of learning and practising it.

39. Photographs. Pictures taken in the Vacation - Colonies, Kindergartens, Infant-schools, etc.

40. Photographs of school-life.

41. Tables showing the total results of the examination of the children of the Dresden District Schools by the school-doctors.

42. The results of the medical examination by the school-doctors, displayed on the plan of the city (Dresden).

43. Results of a measurement of the size of all the school-children of Dresden.

44. Application of the above measurements to the school-desks.

45. Results of bacteriological examinations of the dust in the schoolrooms of the Dresden elementary schools.

46. Apparatus for measuring a) the carbonic-acid and the moisture of the air. b) the light. Representation of results of examinations made.

47. a) Model of completely adjustable school - desk for feeble or crippled children. b) Straight-holder.

Düsseldorf:

48. Realschule in the Retbel-Strasse. Ground-plans. Perspective views.

Eisleben:

— The Eisleben "Kaiserjungen" (Emperor's Boys) with band of trumpeters (photograph). See: Section for Gymnastics, School-sport and School-hygiene.

Elberfeld:

49. Perspective view of a Gymnastic-Hall with school-rooms above it, together with Headmaster's dwelling — for the Higher Girls' School of the west end of the town. Ground-plan 1:500.

50. Gymnasium. Perspective view, with ground-plan 1:500.

51. School in the "Tiergarten". Perspective view with ground-plan 1:500. Small school of eight classes with dwellings for head-master and school-porter.

52. Real-Gymnasinm. a) The collection of physical instruments. b) Photograph of the Assembly-Hall (Aula). c) Aquarelle of the painting on the wall of the Aula, representing: Education of mind and body, and Peace protecting Trade and Manufactures (by Professor W. Spatz of Düsseldorf). — Compare also the special exhibit of the Real-Gymnasium of Elberfeld in Section B (kinds of schools).

53. Realschule of the north end of the town. Perspective view with ground-plan.

54. Ground-plan and photographs of the old schoolhouses on the Katernberg and Mützenberg.

55. Elementary School in the Opphofer-Strasse (Double system) with dwellings for head-master and school-porter.

Frankfort on the Main:

— Special exhibit of the Goethe-Gymnasium, the Model School, and the Deaf-and-Dumb School (all three are Municipal) in Section B (Kinds of Schools).

56. The newly built Lessing-Gymnasium. Ground-plan and photographic view. Costs of erection 690,000 M. Corridors with doors only on one side.

57. Hölderlin-School. Ground-plan. Costs of erection 230,200 M. Corridors with doors only on one side.

58. St. Boniface School (Intermediate school). Ground-plan and photographic view. Photograph of shower-baths in the cellar-story. Costs of erection 460,000 M. Corridors with doors on one side only. The attic story arranged for manual-work classes.

— Bath-room in one of the new Frankfort Intermediate Schools (with a class of boys bathing). See: Section for Gymnastics, School-sport, and School-hygiene.

Hamburg:

— Swimming exercises in the Hamburg Elementary Schools (six photos.). See: Section for Gymnastics, School-sport, and School-Hygiene.

Hannover:

59. Specimens of writing from scholars of the lower classes, who from their entrance into the school have written exclusively with pen and ink.

60. "From the Moors", exhibited by the Museum of the Intermediate School, for object-lessons, especially for North Germany.

61. Municipal School Museum. Photographs.

62. Reports, School programmes, Inaugural addresses, Regulations, Statistics, etc., concerning Elementary Schools in general, the Reformed Schools, the Intermediate Schools, the Municipal Higher Schools for Girls, and the Lyceum.

— Special Exhibit of the Municipal Sophia-School of Hannover — See: Section B (Kinds of Schools).

— Swimming Exercises of the Hannover Elementary Schools (six photos.). See: Section for Gymnastics, School-sport, and School-hygiene.

Hildesheim:

63. Photographs of schools. a) Andreanum, built 1866/68. b) Andreas Real - Gymnasium, unsectarian reformed Real-gymnasium with Realschule, built 1860. c) Gymnasium Josephinum, Catholic Humanistic Gymnasium, built about 1700. d) School for Builders, built 1901. e) School of Agriculture (1878). f) Municipal Higher Girls' School (1878). g) Three specially noticeable Evangelical (Protestant) Elementary Schools, built 1860, 1890/93, 1897/99, and one Catholic Elementary School, renewed 1894. h) Handwork, Commercial and Continuation Schools, built 1885 and 1901. i) Deaf-and-Dumb Institute, built about 1863. k) Seminary for Priests, formerly Capuchin

Cloister, built about 1770, enlarged 1900. l) Jewish Elementary School, built 1881. m) Catholic Training-school for Teachers. n) Catholic Boys' Refectory. o) Three Boarding and Private schools.

64. Course in Manual Dexterity, represented by a) Plan and photographic view of the work-rooms. b) Descriptions, statistics, directions, etc. Work of scholars which is characteristic of the Hildesheim method.

Hörde:

65. One sheet of Instructions for Housekeeping.

Königsberg in Preussen:

— The Walter-Simon-Platz (public playground). Picture in frame. See: Section for Gymnastics, School-sport, and School-Hygiene.

Kreuznach:

— Special exhibits from the Realschule together with pictures of the Bath. See: Section B (Kinds of Schools).

Leipzig:

66. The 10th District School at Leipzig-Lindenau. Drawings. Area of site 5340 sq. meters. School-building, with three upper stories, 2260 sq. metres; 44 class-rooms. Built 1901/02. Costs of erection 515,000 M., including 51,500 M. for furnishing.

67. Photographic view of Central School Garden.

68. Photographic view of the court-yard of the 9th Intermediate school with children at play and at gymnastics.

69. Photographic views of the Botanical Garden of the 9th Intermediate school.

70. Objects made in the school-workshops.

71. Plan for a course of instruction in Drawing, by Professor Flinzer.

72. Specimens of work from the Municipal school for Employment of Women.

73. School for Weak-minded Children. Specimens of work, and photos. taken during lessons.

74. Royal Conservatory of Music. Drawings. Architect: Professor H. Licht. Built 1885/86. Costs of erection 780,000 M.

Mainz (Mayence):

75. Elementary School on the Feldberg-Platz. Photographic views and drawings (the latter in a portfolio). Built 1899/1900, costs of erection 662,000 M. Purchase of site 386,000 M. Double school-house for boys and girls, containing 32 classes for two complete school systems, 2 rooms for cookery-classes, 2 for drawing, one lecture-room, one assembly-room, 2 breakfast-rooms, two gymnastic-halls (one in the main building, one under its own roof), one conference-room, 4 teachers' rooms. The entire building with its practically built and arranged wardrobes, its cookery-school with back-kitchens, its shower-baths, and its detached water-closets with intermittent flushing apparatus, is regarded by school authorities as a model of what a school-house ought to be. Separate dwelling-house for two teachers. Botanic garden in court-yard.

76. Elementary School in the Schul-Strasse. Photographs and plans (the latter in a portfolio). Built 1880. Costs of erection 432,000 M. Purchase of site 297,000 M. When first built was considered a model school-house.

77. Elementary School at the Holz-Tor. Photographs and plans (the latter in a portfolio). Built in 1892/93. Costs of erection 526,000 M. Purchase of site 165,000 M. Double schoolhouse for boys and girls, each part containing a complete system of 16 class-rooms, a room for drawing, a lecture-hall, a gymnastic-hall, and peculiar, convenient connection of main building with gymnastic-hall.

Munich:

78. New school-house at the Kirchstein, Versailles-Strasse. Views and ground-plan. Built 1899—1901. Costs of erection 601,000 M. Brick and plaster with stone facings. Combination of the one-row system with the two-row system of class-rooms. Cellar, ground-floor, and three stories above: 27 class-rooms (with cupboards or special rooms for hats, mantles, etc.), 2 gymnastic-halls, teachers' room, map and globe room, conference room, work-room, library, 4 punishment rooms, school-kitchen, 3 school-workshops, soup-kitchen with

soup-hall, shower-bath with side-rooms, porter's dwelling-rooms, boiler-rooms, low-pressure steam-heating (gas-heating for bath). Introduction of fresh air from the corridors.

79. Elementary-School Building at the Don Pedro Platz in Munich. Built 1898—1900. Plans, and stands with views of the school. Costs of erection and furnishing 590,000 M. Brick and plaster on basement of concrete, with two-row system of class-rooms, cellars, ground-floor, and 2 stories above, boys' and girls' school with 30 class-rooms, 2 gymnastic-halls, one employment room for boys (Knabenhort), one employment room for girls (Mädchenhort), one Kindergarten, one school workshop, shower-bath, soup-room with kitchen, teachers' library, conference-room, porters' dwelling-rooms, etc. 1800 scholars. Low-pressure steam heating with central fresh-air supply from the cellar, massive inserted ceilings with linoleum covering, staircases of oak-wood, school-desks of the Rettig system, playground and school garden.

80. High-school for Girls. Views. Ground-plan. Detail photos. on the revolving stand. Built 1899—1901. Total costs of building about 480,000 M. Brick and plaster with stone facings, grouped round a central court into which the assembly room (Aula) is built as a skylighted hall. Cellars, ground-floor, and three stories above; 15 class-rooms each with its own cloak-room; one room each for: Natural History, Needle-work, Singing, and Bible-lessons. — Headmaster's room with Library, Infirmary, Teachers' room, Map and globe room, School-Kitchen, porter's rooms, balconies, concrete staircase with wooden steps. A wing-building at the back is the Municipal Industrial School.

81. New school-building on the Elisabeth-Platz. Views and ground-plan. Detail photos. on the revolving stand. Built 1900—1902. Total costs of construction 661,714 M. Brick and plaster with stone facings, schoolrooms on the two-row system, cellars, ground-floor, and three stories above, containing: 10 boys' class-rooms and 11 girls' class-rooms and 9 handwork-rooms (with their own cloak-rooms), two scholars' workshops for woodwork, and two for metal-work, two gymnastic-halls, two teachers' rooms, one conference-room, two map and globe rooms, a soup-kitchen with soup-hall, a shower-bath with side-rooms, a Kindergarten with playground. Porter's

dwelling, Boiler-room with side-rooms, Low-pressure steam heating (also, in part, gas-heating and stoves). Fresh-air supply direct from without. — Staircase concrete with terralite covering. Playground.

82. School-house in the Martins-Strasse. View and ground-plan. Details on the revolving stand. Built 1900/02. Costs of erection 671,887.72 M. Built on the two-row system, contains on the ground-floor and the three stories above it: 32 class-rooms with cloak-rooms, two gymnastic-halls with cloak-rooms, two rooms for the Kindergarten with side-rooms, two teachers' rooms, one library and conference room, two map and globe rooms, one school-kitchen, porter's dwelling, separate necessaries for boys and girls. In the cellar-story shower-bath; soup-halls with soup-kitchens, Scholars' workshops for carpentry and metal-work with side-rooms, closets, and rooms for the low-pressure steam heating apparatus. The building is of brick with stucco. Fire-proof floorings. Linoleum carpeting. Court-yard with Kindergarten, Playground, and School kitchen-garden.

83. School-house in the Weiler-Strasse. View and ground-plan. Three Tables on the revolving stand. Built 1898/99. Costs of erection 617,131.57 M. Two-row system, containing, on the ground-floor and upper stories, 29 schoolrooms with their cloak-rooms, 2 gymnastic-halls with cloak-rooms, 2 rooms for the Kindergarten with side-rooms, 2 teachers' rooms, one conference-room, one library, one map and globe room, one room for the teachers of needlework, 3 rooms for guardians of the poor, porter's dwelling, 5 punishment rooms, separate necessaries for boys and girls. In the cellars: shower-bath, soup-halls with soup-kitchen, wash-house, necessaries, and boiler-room for low-pressure steam heating apparatus. The building is of brick with stucco. Fire-proof floorings. Linoleum carpetings. Spacious court-yard, with separate playing-ground for the Kindergarten.

84. School-house in the Stieler-Strasse. Model and ground-plan. Five diagrams on the revolving stand. Built 1898/99. Costs of construction 607,530 M. Two-row system, containing in three (partly in four) stories 30 class-rooms with cloak rooms, two gymnastic-halls with cloak-rooms, two rooms for the Kindergarten with side-rooms, one teachers' room, one

conference-room, two map and globe rooms, porter's dwelling, six punishment-rooms, separate necessaries for boys and girls. In the cellar-story: the shower-bath, soup-hall with soup-kitchen, wash-house, necessaries and rooms for the low-pressure steam heating apparatus. The building is of brick with stucco. Fire-proof floorings. Linoleum carpetings. Spacious court-yard with separate playing-ground for the Kindergarten.

85. Graphic representations concerning Continuation-Schools, etc.

Nuremberg:

86. Pictures of recently built School-houses for Elementary Schools, viz. a) School on the Melanchthon-Platz; b) School in the Goethe-Strasse; c) School in the Bismarck-Strasse; d) School in the Knauer-Strasse; e) School in the Holzgarten-Strasse; f) School in the Findel-Gasse. Each school-house contains 30 to 32 class-rooms, gymnastic-hall, assembly-room (Aula), school-bath, school-kitchen, porter's and stoker's dwelling. Costs of construction 500—600,000 M.

87. School-house of former times. Drawing. Costs of construction and furnishing 35,000 M. Contains four class-rooms. In Nuremberg seven such school-houses were built.

88. School-kitchens of three different school-houses. Plans and photographs.

Posen:

— Photographs of some of the Elementary schools at Posen. The feeding of poor children, pupils of the 5th Municipal School, etc. etc. Compare: Section for Gymnastics, School-sport, and School-Hygiene.

Quedlinburg:

89. Guts Muths Realschule (Director Dr. Lorenz). Nine photos. of the school. The school-flag.

— Pictures (six coloured photographs) of scholars about to start for a walking tour to the Harz mountains. — Playing at soldiers in the Harz mountains etc. See: Section for Gymnastics, School-sport, and School-Hygiene.

Stettin:

— Special Exhibits of the Municipal 1st Intermediate School for Girls, and of the Arndt Intermediate School for Boys. See: Section B. Kinds of Schools.

Stolp in Pomerania:

— Municipal Auxiliary School (Teacher Frenzel). See: Section B. Kinds of Schools.

Strassburg:

90. Equipments of scholars' workshops for wood-carving and modelling.

91. Manual Dexterity. a) Models for imitation. b) Specimens of scholars' work. c) Appliances for teaching needlework, etc. in girls' elementary schools.

Stuttgart:

92. Wilhelms-Realschule. General view with plan of site and ground-plans. Built 1895/96. Costs of building, including extras, 480,000 M. Corner-building in stone, offered much difficulty from irregularity of surface. Cleverly devised connection of school, gymnastic-hall and playgrounds. Gas heating.

93. Ostheimer School (suburban school). General view, plan of site and ground-plan. Built 1902/03. Costs of building, including extras, 330,000 M. Artificial stone with stuccoed spaces. Middle corridor with pegs for hats and mantles. Gas heating. Bath for scholars. Exceptionally fine view of the country round.

94. Schwab-Schule. General view, plan of site, and ground-plans. Built 1901/02. Costs of erection, extras included, 374,000 M. Lateral corridor with widened space for hat and mantle pegs. Gymnastic-hall occupying two stories. Built of brick in Gothic style. Gas heating. Bath for scholars.

G.

Exposition of Educational Appliances and Books.

The Philosophical Apparatus of the Berlin Elementary Schools.

Exhibitors: 1. **Leppin and Masche,** Scientific instrument makers, Berlin SO., Engelufer 17.

Each of these Berlin public elementary schools, which now number more than 260, without reckoning the schools on the same footing belonging to Berlin's numerous suburbs, is provided with a collection of philosophical apparatus answering to the requirements of the present day, and the sums spent annually by the city for such apparatus prove that necessary and desirable additions are being made to the already existing collections.

The philosophical apparatus in question is supplied by several different firms. Of these the firm of Leppin and Masche, Berlin S.O., Engelufer 17*, has been selected by the Royal Prussian Ministry of Public Worship and Instruction to prepare and arrange for the German School-Exhibition at St. Louis a display of the scientific apparatus of a Berlin Elementary School.

The teaching includes the entire cycle of natural science, though but in a concise form and restricted to main facts. The apparatus may be divided into the following groups:

* See also group of "Scientific Instruments" and also the Special Catalogue of this firm.

1. The Mechanics of Solid Bodies: the lever, the balance, the pulley, the inclined plane, the parallelogram of forces, the Attwood's falling-machine, the pendulum, the centrifugal-machine with certain accessory apparatus, and the pendulum-clock.

2. The Mechanics of Fluid Bodies: the hydrostatic-level, the hydraulic-press, communication-tubes, Pascal's apparatus, showing that the height only of a column of water, and not its form or lateral extension, influences its pressure; further: apparatus for explaining specific gravity and capillary attraction.

3. The Mechanics of Gaseous Bodies: barometer, syphon, suction-pump, fire-engine, and the air-pump with its accessory apparatus.

4. Acoustics: Model of the ear, speaking-trumpet, hearing-trumpet, monochord, tuning-fork, various kinds of whistles, model of the larynx.

5. Theory of Heat: thermometer, ring and ball to prove that warmth expands and cold contracts bodies, steam-piston, hygrometer, model of steam-cylinder with governor-balls and throttle valve, as also apparatus for conduction of heat and specific heat.

6. Optics: optic-bench for experiments with lenses to explain the burning-glass, long-and shortsightedness, measurement of light, etc., refraction-apparatus, model of the eye, stereoscope, microscope, camera-obscura, which serves also to explain the photographic camera.

7. Magnetism: magnets, the magnetic needle, the dipping-needle, the compass.

8. Frictional Electricity: rods of various materials, displaying their electrical peculiarities, electroscope, electrophore, electrical machine with accessory apparatus, Leyden jars, etc.

9. Galvanic Electricity: plates of copper and zinc for the original Voltaic experiment, elements, incandescent lights, arc-lamps, apparatus for decomposing water, galvanoplastic apparatus, galvanometer, Morse telegraph, electro-magnet, electric bell, induction apparatus, telephone, dynamo machine.

For the Berlin elementary schools the order of these subjects has recently been changed for didactic reasons: they begin now with the theory of heat, and end with optics.

The chief end of science teaching at elementary schools is to give the scholars, before they quit the school, a certain foundation which may enable them to understand in some degree the advances which are continually being made in technical science, and which may further enable them, on the basis of what they learned at school, to enlarge their scientific knowledge, should their trade require it. The apparatus is chosen and constructed with a view to this end, and it is regarded as less important to perform crucial experiments than to display the various physical phenomena clearly and convincingly.

With suitably constructed instruments, in which simplicity goes hand in hand with exactness, the science-teacher can perform the necessary experiments with the necessary certainty of success.

In consequence of the great number of scholars in each class of the elementary schools it is necessary that the apparatus should not be constructed on too small a scale.

2. Berlin Manufactory of Educational Appliances, Paul Gebhardt Söhne, Mechanicians and opticians, C., Neue Schönhauserstrasse 6.

1. Air-pump with brass cylinders, Grassmann cocks, manometer and glass-plate.
2. Bourdon's tubes on brass foot, to explain the manometer.
3. Model of a crane with machinery on revolving base.
4. Double sirene after Helmholtz with counting-apparatus.
5. Tuning-fork with 2000 vibrations, to prove Doppler's law.

5a. Tuning-fork C, on sounding board with electro-magnetic impulse.

6. Reflecting octant with graduated scale inlaid in silver, telescopes, vernier with magnifying and coloured glasses.
7. Weinhold's demonstration prism.
8. Sectional model of a steam-cylinder with slide-valve gear, governor-balls and throttle-valve, on iron base with column.
9. Vertical demonstration-galvanoscope with two reels of wire coil, adjustable on stand with setting-screws, graduated scale, and tangent-scale.
10. Two telephones of wood for demonstration, one can be taken to pieces, both are ready for practical use.

11. Instrument for demonstrating the musical arc-lamp, consisting of throttle-coil with adjustable resistance, a hand arc-lamp and a highly sensitive microphone.

3. Ephraim Greiner (Bieler, Greiner and Kühn), Stützerbach in Thuringia, manufactory of scientific instruments and apparatus for elementary instruction in physics.

Models:

1. Thermometer with three scales — Réaumur, Celsius, Fahrenheit.
2. Hydraulic press (Brahma press) mounted on stand (water-cistern).
3. Communication-tubes with four branches on stand of polished wood.
4. Forcing-pump mounted on stand (water-cistern).
5. Fire-engine with one pump-cylinder, without stand.
6. Fire-engine with two pump-cylinders, mounted on stand (water-cistern).
7. Hero's fountain on stand of polished wood.
8. Hydraulic ram on stand of polished wood.
9. Wollaston's cryophorus.
10. Exhausting air-pump.
11. Compressing air-pump.
12. Double radiometer on stand of polished wood.
13. Sand-glass, polished wood case, running five minutes.
14. Suction-pump mounted on stand (water-cistern).

Educational Appliances for Teaching Zoology, Anatomy, Botany, Mineralogy and Technology.

4. A. Böttcher, Educational Appliances for Natural History, etc., Berlin C2. Brüderstrasse 15.

1. Our Titmice as destroyers of insects. Group of ten stuffed titmice: *long-tailed tit, crested tit, ox-eye tit, blue tit, cole tit, marsh tit, northern tit, bottle-tit, bearded tit.*
2. *Lagopus alpinus* (Alpine ptarmigan) in summer, autumn, and winter plumage, to illustrate similarity of colour with surrounding objects.

3. Zooplastic fishes in natural positions: Sander, siluris, eel, pike, burbot.
4. Double preparation of *Greek tortoise*, one half stuffed, the other as skeleton, with ovary.
5. Nerve-preparation of domestic cat.
6. Special collection of mimicry, dimorphism, etc.
7. Live-boxes for insects. In these each pupil receives a living specimen of the insect under discussion.
8. Zinc: native zinc-blende, disintegrated blende, roasted blende, raw zinc, zinc-dust, muffle-residuum, muffle before it is used, muffle after it has been used, portion of condensing-tube with concentric zinc and zinc-oxide deposits, slag, incrustations from flue.

5. **Dr. F. Krantz**, Rheinisches Mineralien-Contor, Bonn a. Rh., Herwarth Strasse 36.

1. Models of crystals in wood, plate-glass, and papier maché for lessons in mineralogy.
2. Stone of different kinds with transparent sections and descriptions.
3. Plaster cast of *Archaeopteryx Siemensii (Dames)*.

6. **R. Brendel**, Grunewald, near Berlin, Bismarck Allee 37.

Twenty-four dissectible models of flowers and other parts of plants, considerably magnified, for botanical lessons in schools, agricultural institutes, academies of forestry, universities, etc.

7 Zoological Institute of **Wilhelm Haferlandt and Co.** Special institute for Nerve preparations and Injections. Charlottenburg, Berliner Strasse 113; also Berlin SW., Friedrich Strasse 6.

Three-coloured injections of frog, pike, footless lizard, pigeon.

Four-coloured injections of domestic cat and squirrel.

Nerve preparations of domestic cat, squirrel, pigeon, pike, and stag-beetle.

Air-sac and digestive organs of pigeon.

The trout--development and biology.

The bitterling * ,, ,, ,,

The stickleback ,, ,, ,,

* The bitterling is *Rhodeus amarus*.

The cockchafer—development and biology.

Development of hen's egg, in five stages.

Collection of crustaceans. Life in the sea. Life in the pond. One frog (half skeletonized). One stuffed pike. One pine-tree lappet-moth.

8. **Pippow Brothers,** Appliances for Natural-history lessons, Berlin N.-Hermsdorf (Mark), Bahnhof Strasse 11.

Section of *human* brain.

Squirrel *(Sciurus vulgaris)*, injection of the nerves, arteries and portal vein.

Sections of the eye of *Bos taurus* (ox), — the not easily obtained section through the lens is especially worthy of note.

Ergates faber, metamorphoses — in alcohol.

Sticklebacks *(Gasterosteus aculeatus),* nest with young and full-grown sticklebacks.

9. **G. Winckelmann,** Educational Appliances and Bookstore, limited, Berlin SW., Friedrich Strasse 6.

Müllenhoff's Collection of woods — in case.

Müllenhoff's Collection of insects — in 2 cases.

10. **Dr. Hermann Landois,** University professor, Münster in Westphalia, Tuckesberg, Zoological Garden.

Self-made preparations (in book-form) to illustrate the books (which are also exhibited): Man and the Animals, The Vegetable Kingdom, The Mineral Kingdom, and school books.

a) Anatomy of *Gryllotalpa vulgaris* (the mole-cricket) and *Melolontha vulgaris* (the cockchafer).
b) *Carabida* pursuing prey on the ground, on trees, in the water.
c) *Dytiscida,* their development and way of life.
d) *Coprophaga* (dung beetles) — their way of life.
e) *Oryctes nasicornis* (rhinoceros beetle) — development.
f) *Necrophorus* (burying-beetle) burying a mouse.

Pictures and Diagrams for Lessons in Botany, Zoology, Anatomy, Mineralogy and Geology.

11. **Amthor's** Publishing Firm, Leipzig, Thal Strasse 5. Plants cultivated in Germany. Poisonous plants. Fungi. Serpents. Lizards.

12. **Gustav Fischer,** publisher, Jena, Sellier Strasse 8. Anatomical diagrams for natural history lessons in higher schools.

13. **Th. G. Fischer & Co.,** Cassel, Königstor 72½. Zoological and chemical-technological diagrams.

14. **C. C. Meinhold & Söhne,** Royal Court Printers and publishers of educational appliances, Dresden, Zinzendorf Strasse 29. Pictures of animals. Anatomical diagrams. Forms of leaf, blossom, and fruit.

15. **Erwin Nägele's** publishing firm, Stuttgart, Marien Strasse 31. Schmeil's zoological and botanical diagrams.

16. **J. F. Schreiber,** in Esslingen near Stuttgart, and in Munich. The human body in diagram with folding adjuncts displaying special parts. The eye. The ear. The head. Engleder's diagrams of animal and vegetable life.

17. **P. Stankiewicz,** printer, Berlin SW. 11, Bernburger Strasse 14. Diagram representing the "geological wall" at the Humboldt Hain in Berlin, built under direction of Dr. Eduard Zache. Printed explanation and description by Dr. E. Zache also exhibited.

18. **F. E. Wachsmuth,** Publisher of school-pictures and art products, Leipzig, Kreuz Strasse 3. Plants cultivated in foreign countries. Zoological pictures, anatomical and technological diagrams.

19. **Georg Thieme,** Leipzig, Rabenstein Platz 2. New anatomical school-pictures, drawn by Alexander Wilke after designs by F. A. Düms M. D.

20. **J. Kagerah,** technological educational appliances, Hamburg 19, Von der Tann Strasse 8.

1. The Manufacture of Cotton. Ripe, open cotton-pods, Cotton seed, Raw cotton from America and the East Indies, Cleaned and carded cotton, Rovings, Yarn, Thread, Woven fabrics.

2. The Manufacture of Steel Pens. A piece of steel-plate, cut, stamped and punched, finished (large) pen. Rolled steel-plate, Waste steel. The fabrication of an ordinary steel pen in 12 stages of manufacture, glass case.

3. The Manufacture of Ink. Chinese gall-apples. Mimosa bark. Copperas. Campeche wood (Logwood). Chrome alum.

Tannin. Gallic acid. Powdered gall-apples. Ink-powder. Gum arabic. Gallnut-ink. Logwood-ink.

4. The Manufacture of Paper. Raw, boiled, ground wood. Cellulose. Chopped, boiled, bleached straw. Cut, boiled, ground rags. Various sorts of paper.

21. Heintze & Blanckertz, German Steel-pen Factory, Berlin NO., Georgenkirch Strasse 44. One glass frame containing a table showing the stages of manufacture of a steel-pen in the factory of H. & B., and the sorts of pens used in German schools. The table is used in schools as a means of instruction.

Appliances for Teaching Geometry and Arithmetic.

22. G. Winckelmann's Establishment for Educational Appliances, limited, Berlin SW., Friedrich Strasse 6. First series Wienecke's movable figures.

23. Friedrich Ebbecke, publishing-house, Lissa i. P.: Divisible cubic decimeter. Calculating-box.

24. Albert Hauff, Berlin-Schöneberg, Cherusker Strasse 2: Lamey's calculating-apparatus for the first arithmetic lessons at a school. "Alpha", the little Ready Reckoner, is placed in the hands of the child for home practice.

25. Otto Genetat, teacher, Friedrichshagen near Berlin, Ahorn Allee 23: Calculating machine (exhibited among the objects of the 232nd Berlin Elementary school; see: Section B. Kinds of Schools).

Appliances for Teaching Topography, Geography, Mathematical Geography, and Astronomy.

26. Ernst Schotte & Co., Berlin W., Potsdamer Strasse 41a: Schotte's Physical School Globe, Schotte's Tellurium, School Planetarium and Induction Globe, Albrecht's School Armillary Sphere, called: Diesterweg's Astronomical Table.

27. Wilhelm Plessmann, München, Maximilian Platz 19: Transparent map of the northern heavens, drawn by Rector Osenberg in Zeitz. Second improved edition by Dr. Örtel, Professor and Observer at the Royal Observatory at Munich.

28. Joseph Dinges, teacher at the Royal Training College, Mindelheim, Bavaria:

1. Europe in relief, shield-shaped, with curve as on the earth's surface. Land and water coloured by hand. Lines of traffic displayed.
2. Relief of the Wetterstein Mountains, Section VII of the great special relief of the Northern Calcareous Alps in 13 sections — with a surface of 9 square metres. The colouring gives the varieties of surface, vegetation etc.
3. Model of a typical mountain from the Bavarian Highlands: Herzogstand-Heimgarten with the Kochsee and Walchensee; Scale 1:10,000.

29. Fritz Kindt, Steglitz near Berlin, Schildhorn Strasse 11:

1. Relief of Vesuvius, represented as type of a volcano, by Dr. Max Ebeling, Berlin, from the geological map of the Italian Ordnance survey. Scale 1:20,000.
2. Relief of the Riesengebirge. Scale 1:50,000. As type of a German chain of mountains of moderate height.

30. Dr. F. Krantz, Rheinisches Mineralien Contor, Bonn a. Rh., Herwarth Strasse 36: Plaster relief of the Aletsch glacier.

31. F. E. Wachsmuth, Leipzig, Kreuz Strasse 3: Wall-pictures: Geographical characteristic landscapes. Pictures for Mathematical Geography.

32. C. C. Meinhold & Söhne, Dresden: Geographical pictures.

33. Hobbing & Büchle, publishers, Stuttgart, Paulinen Strasse 19:

Hummel's Wall-picture to elucidate the representation of countries etc. on maps. It is intended to show the scholars the way in which natural objects are presented by the cartographer — to enable them to "read maps".

34. Ferdinand Hirt, publisher, Breslau and Leipzig:

Hirt's Chief forms of the earth's surface. Drawn after the representations of Seydlitz's School Geography, and intended for the first lessons in geography.

35. J. F. Schreiber, Educational Appliances, Esslingen and Munich:

Schreiber's Wall-pictures to display the fundamental conceptions of geography.

36. **G. Winckelmann's Institute,** limited, Berlin SW., Friedrich Strasse 6:
Waren's Pictures of the Zones.

Maps and Atlases.

37. **H. Wagner & E. Debes,** publishers, Leipzig, Nürnberger Strasse 46.

38. **Ed. Hölzel,** publisher, Vienna IV, 2 Luisen Gasse 5.

39. **Georg Lang,** publisher of maps and books, Leipzig, Dresdener Strasse 11.

40. **Justus Perthes,** geographical institute and publishing firm, Gotha.

41. **Renger** (Gebhardt and Wilisch) publishers, Leipzig, Nostitz Strasse 5. (Plans of Berlin, Paris, and London showing principal monuments.)

42. **Emil Roth,** publisher, Giessen (Hessen).

43. **Velhagen and Klasing,** publishers, Bielefeld and Leipzig.

44. **A. Müller,** publisher, Fröbel-House, Dresden A., Waisenhaus Strasse 24.

45. **George Westermann,** publisher, Brunswick, Breite Strasse 2.

46. **K. F. Koehler's** publishing firm, Leipzig, Täubchen-Weg 21.

47. **Munich School Requisites,** Wilhelm Plessmann, Maximilian Platz 19.

48. **Hellmuth Wollermann,** publisher, Brunswick, Bohlweg 69.

49. **Cartographical Institute,** G. Freytag and Berndt, Vienna VII, 1. Schottenfeld Gasse 64.

Illustrative Pictures and Diagrams

for elementary teaching, also for lessons in languages, art, and history, exhibited by:

50. **Th. G. Fischer & Co.,** Cassel (Architecture).

51. **Ferdinand Hirt,** Breslau and Leipzig (Styles of architecture, pictures of the seasons).

52. **Ed. Hölzel,** Vienna. Wall-pictures for Object lessons and Conversation lessons in foreign languages. Architectural monuments.

53. **Kafemann's** publishing company, limited, Danzig (West Prussia), Ketterhager Gasse 4. Illustrative pictures.

54. **K. F. Koehler,** Leipzig, Täubchen-Weg 21. (Cybulski's diagrams for lessons in ancient languages and ancient history.)

55. **C. C. Meinhold & Söhne,** Dresden. (Pictures illustrating German History, and other wall-pictures.)

56. **E. Morgenstern's publishing firm,** Breslau VI, Königs-Platz 1. (School wall-map to Schiller's William Tell.)

57. **Friedrich Andreas Perthes,** joint stock company, Gotha:

a) Peter Woltze, architectural painter: The Saalburg, painted with due regard to recent excavations and partial restorations. Several chromo-lithographic pictures for lessons in history and the ancient languages.

b) Kehr-Pfeiffer-Kull's Wall-pictures illustrating Hey's fables.

58. **Wilhelm Plessmann's** publishing firm, **Munich.** Germany's intellectual heroes in pictures. Giese's Dachauer Moor (framed).

59. **Emil Roth,** publisher, Giessen. Pictures from Palestine.

60. **J. F. Schreiber,** publisher, Esslingen and Munich. Pictures of the seasons, and landscapes.

61. **E. A. Seemann,** Leipzig, Quer Strasse 13. Seemann's coloured copies, wall-pictures; Kühn's Nuremberg castle.

62. **F. E. Wachsmuth,** publisher, Leipzig. Bell foundry. Germany's colonies. Pictures illustrating the history of civilization. Artistic wall-decorations for school or house.

63. **The Orphanage at Halle.** Wall-pictures.

64. **Winckelmann and Sons,** publishers, Berlin S., Sebastian Strasse 34. Pictures for Object-lessons and for the lessons in languages.

65. **Friedrich Ebbecke's publishing firm,** Lissa in Posen, Markt 25, exhibits Gertig's new Reading-Apparatus.

66. Rector **Alois Gusinde,** Berlin W., Mohren Strasse 41, shows in the special exhibit of the 232nd Berlin Elementary school (see: Section B. Kinds of Schools) his so-called "Singing-machine". It consists of a board, like a common blackboard in size and shape, but surfaced on either side with white paper, under which is a layer of cork. On one side is a large staff, with the usual five lines and the G key, and notes (red and black) which the teacher can move at pleasure with a lever, and which are used to practise the intervals, and in part-singing.

On the other side are also staves with G keys, on which a tune can be represented note for note, as it is learned, by means of crotchets, quavers, sharps, flats, rests, bars, etc. of black metal (all of which lie ready in a box, like the letters in a compositor's case), each provided with a sharp point, by which it is stuck in its place in the stave, just as a drawing-pin is stuck into a drawing-board.

Full particulars in Gusinde's "Theoretisch-praktische Anleitung", p. 24.

67. Priebatsch, bookseller, Breslau, Ring 58, shows the annual volumes for 1901, 1902, and 1903 of the Periodical: "The Educational Appliances of the German Schools. Information, Advice, and Opinions concerning the practical working of the Higher Schools, Elementary Schools, and Continuation Schools."

68. Lists of Educational Appliances from Winckelmann (Berlin S.W., Friedrich Strasse 6), Gsellius (Berlin, Mohren Strasse), A. Müller, Fröbelhaus (Dresden), etc.

For Kindergartens.

69. Fröbel's Instructive Occupations for the Kindergarten. Entirely made of wood. Various collections of building-games, dissected-puzzles, plaiting-exercises, staff-laying exercises and modelling-staves. Exhibited by S. F. Fischer, Manufacturer of wares and toys in wood, Ober Seiffenbach in the Erzgebirge.

Handwork for Boys.

70. Course of handwork for boys, after the Ruess-system. Exhibited by **Max Ruess,** Sculptor and teacher at Ulm, Wein-

hof 5. In the form of diagrams: Courses for chip-carving, flat-work, easy planing-work, and modelling. The objects are of wood, clay, and plasteline.

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71. Exhibit of the **Scholars' workshop at Leipzig,** Gustav Adolf Strasse 2 (Director Dr. Pabst): one book: Copies for hand-exercises, from the Scholars' workshop at Leipzig. One album: Photographs of models and groups of boys at work in the Scholars' workshops at Leipzig.

72. Exhibit of the **German Union for Boys' Manual Dexterity,** Leipzig, Scharnhorst Strasse 20 (Director: Dr. Pabst):

1. Diagram showing the number of workshops for boys' manual dexterity in the different parts of the German Empire.
2. Diagram showing the sums granted annually for Boys' manual-dexterity-teaching by towns in and outside Germany.
3. Volume for 1903 of "Blätter für Knabenarbeit", the organ of the German Union for Boys' manual-labour-teaching.
4. Two reports on the classes for Boys' manual work in the training-school at Leipzig, 1903.
5. Programme of the above institution for the year 1903 (English edition).
6. Advice on the introduction of instructive boys' manual labour, second edition, Leipzig 1903. Published by the German Union for boys' manual-labour-teaching.
7. Normal course of instruction for the teaching of cardboard-work. Second edition, Leipzig 1903. Published by the German Union for boys' manual-labour-teaching.

Pedagogical Library.

Here the endeavour has been made to bring together as complete a collection as possible of recent and the most recent pedagogical literature.

Works on the History of Education. Writings to illustrate School Organizations and Educational Systems, as also Methodics and Didactics. Publications of School Statistics. Works of Reference, Lexicons, etc. from the reference-libraries of teachers and scholars. Bibliographical digests. Periodicals for teachers, do. for scholars. Calendars for teachers, do. for scholars.

Books of instruction for all the subjects taught at the higher, intermediate and elementary schools in Germany, including those for Handwork, Needlework, Housework, Music and Singing, and also the Commercial, Technical, and Continuation Schools.

The **exhibitors** are the **publishing firms***:

Amthor, Leipzig, Tal Strasse 5.

Aschendorff, Münster (in Westphalia), Kloster Strasse 31—32.

A. Asher & Co., Berlin W., Unter den Linden 13.

C. H. Beck (Oscar Beck), Munich, Wilhelm Strasse 9.

Chr. Belser, Stuttgart, Augusten Strasse 13.

***Berliner Lehrerverein** (K. Mertelsmann, Berlin N. 58, Tresckow Strasse 8).

***Berlin School Deputation** (Book by the Municipal School Inspector Dr. Zwick).

***Berlin Society for Holiday Camps,** Berlin N. 24, August Strasse 91.

Hermann Böhlau's Nachfolger, Weimar, Kleine Teich Gasse 6.

Oscar Bonde, bookseller to the court, Altenburg.

Brothers Bornträger, Berlin SW. 11, Dessauer Strasse 29.

Friedrich Brandstetter, Leipzig, Stephan Strasse 20.

***Central Station of the Societies for Utilizing the Summer Season in Germany,** Berlin W., Steinmetz Strasse 16.

J. G. Cotta Nachfolger, limited, Stuttgart and Berlin. Branch-business Berlin SW. 12, Koch Strasse 53; united with the Besser-publishing firm (W. Hertz).

W. Crüwell, Dortmund, Olpe Strasse 29.

***German Poets' Memorial Society.** Hamburg, Gross-Borstel, Viola Strasse 16 (Secretary Dr. Ernst Schultze).

***German Swimming-Club** (Schwimmverband). Publishers of the "Schwimmer-Zeitung", Charlottenburg 1, Berliner Strasse 102.

***German Union for Boys' Manual Dexterity,** Leipzig, Scharnhorst Strasse 20. Training-school: Scharnhorst Strasse 10. Director Dr. Pabst.

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* One asterisk by name to mark an authority, an union, an author editor as exhibitor.

Moritz Diesterweg, Frankfort on the Main, Hoch Strasse 29.

Dürr (Otto Friedrich and Johannes Friedrich Dürr), Leipzig, Quer Strasse 14.

Friedrich Ebbecke, Posen O. 1, Berliner Strasse 1.

N. G. Elwert, Marburg (Hessen) Reit Gasse 7 and 9.

Gustav Fischer, Jena, Sellier Strasse 8.

Fischer's publishing firm for medical works (H. Kornfeld), Berlin W. 35, Lützow Strasse 10.

Gustav Fock, limited, Leipzig, Schloss Gasse 7, arranged the collection of specimen numbers of the German pedagogical periodicals.

Förster & Borries, Zwickau (Kingdom of Saxony).

* **Fr. Frenzel,** teacher at the Municipal Auxiliary School at Stolp in Pomerania.

G. Freytag, Leipzig, Brüder Strasse 23.

B. W. Gebel (Bruno Gebel), Gross-Lichterfelde West, Stern Strasse 49.

* **Oswald Gerhardt,** teacher (Oberlehrer), Berlin N. O. 18, Büsching Strasse 35.

* **Society for the History of Education in Germany (E. V.),** Berlin N. W. 40, Invaliden Strasse 57—62. (See also Kehrbach.)

Hermann Gesenius, Halle a. S., Mühl Weg 34.

G. J. Göschen, Leipzig, Salomon Strasse 10.

Gräfe & Sillem, Hamburg, Kaiser Wilhelm Strasse 82.

F. G. L. Gressler, Langensalza.

Grethlein & Co., Leipzig, Dorotheen Strasse 2.

G. Grote, Berlin S. W. 11, Dessauer Strasse 18.

J. Guttentag, limited, Berlin W.35, Lützow Strasse 107—108.

* **Traugott Heinrich,** Teacher of Singing, Berlin N. O. 43, Frieden Strasse 12.

Friedrich August Herbig, Berlin W.35, Schöneberger Ufer 13.

R. Herrosé (H. Herrosé), Wittenberg, Reg.-Bez. Halle a. S.

Max Hesse, Leipzig, Eilenburger Strasse 4.

Hermann Hillger, Berlin W. 9, Königgrätzer Strasse 7.

Ferdinand Hirt, Royal University Publishing firm, **Breslau VI,** Königs Platz 1.

Ferdinand Hirt & Son, Leipzig, Salomon Strasse 15.

A. W. Kafemann, Danzig, Ketterhager Gasse 4.

Prof. Dr. Karl Kehrbach, Charlottenburg, Schiller Strasse 4.

J. U. Kern (Max Müller), Breslau II, Teich Strasse 8.

Kesselring's Court Publishing and Bookselling firm (E. von Mayer), Frankfurt on the Main and Leipzig.

K. F. Koehler, Leipzig, Täubchen Weg 21.

Gerhard Kühtmann, Dresden-A., Albrecht Strasse 12.

* **M. Kunz,** Director of the Blind-school at Illzach near Mülhausen in Alsace.

* **Dr. Hermann Landois,** University Professor, Münster in Westphalia, Tuckesberg, Zoological Garden.

Langenscheidt (Prof. G. Langenscheidt), Berlin S W. 11, Hallesche Strasse 17.

J. F. Lehmann, Munich, Heu Strasse 20.

F. Leineweber, Leipzig, Könneritz Strasse 57.

Rudolf Lion, Hof in Bavaria.

C. C. Meinhold & Sons, Royal Court Printing-office and Publishers of Educational Appliances, Dresden, Zinzendorf Strasse 29.

Carl Meyer (Gustav Prior), Hannover, Celler Strasse 90a.

E. S. Mittler & Son, Royal Court Publishers, Berlin S W. 12, Koch Strasse 68—71.

A. Müller—Fröbelhouse, Vienna and Dresden. Institute for Educational Appliances, and Publishing house, Dresden-A., Waisenhaus Strasse 24.

Erwin Nägele, Stuttgart, Marien Strasse 31.

Otto Nemnich, Wiesbaden, Schierstein Strasse 3.

August Neumann (Fr. Lucas), Leipzig, Quer Strasse 16.

L. Oehmigke (R. Appelius), Berlin N W. 7, Dorotheen Strasse 38—39.

Martin Oldenbourg (formerly A. Braun & Co.), Berlin S W., Friedrich Strasse 239.

R. Oldenbourg, Munich.

* **Berthold Otto,** Gross-Lichterfelde, Holbein Strasse 25.

* **Director Dr. Pabst,** Director of the Leipzig Scholars' Workshop, Gustav Adolf Strasse 2. (See also German Society for Boys' Manual Dexterity.)

Reinhold Pabst, Book and Music Publisher, Delitzsch (Province of Saxony).

Hermann Paetel, Berlin W. 30, Elssholz Strasse 12.

A. Pichler's Widow and Son, Vienna V, 54, Margareten Platz 2.

Wilhelm Plessmann, Maximilian's Platz 19.

Preuss & Jünger (Artur Jünger), Breslau, Ring 52.

Priebatsch, Breslau 1, Ring 58.

O. R. Reisland, Leipzig, Karl Strasse 20.

Renger, Publisher and Bookseller: Gebhardt & Wilisch, Leipzig, Nostiz Strasse 5.

* **Dr. med. E. Rietz,** Berlin W., Dennewitz Strasse 10.

Artur Rossberg, Leipzig, Frommann Strasse 4.

Emil Roth, Giessen, Marburger Strasse 20.

* **Max Ruess,** Sculptor and Teacher, Ulm on the Danube, Weinhof 5.

Paul Schahl, Berlin SO. 16, Neander Strasse 16.

* **Dr. med. F. A. Schmidt,** Bonn on the Rhine, Koblenzer Strasse 23.

Moritz Schnetter, Berlin W. 57, Steinmetz Strasse 36.

Richard Schoetz, Berlin NW. 6, Luisen Strasse 36.

J. F. Schreiber, Publisher of Books and Educational Appliances, Esslingen near Stuttgart, and Munich.

Schulhaus Publishing Firm, Berlin-Tempelhof.

Karl Siegismund, Berlin SW. 11, Dessauer Strasse 13.

K. Sieke, Rendsburg.

Franz Siemenroth, Berlin W. 57, Dennewitz Strasse 2.

Otto Spamer, Leipzig, Breitkopf Strasse 7.

Julius Springer, Berlin N., Monbijou Platz 3.

Gerhard Stalling, Oldenburg.

* **Royal Statistic Bureau,** Berlin SW. 68, Linden Strasse 28.

Elwin Staude (Erich Staude), Berlin W. 35, Potsdamer Strasse 122c.

Strassburg Printing and Publishing Office (formerly R. Schultz & Co.), Strassburg in Alsace.

Eduard Strauch, Leipzig, Kreuz Strasse 23.

* **Deaf-and-Dumb Institution** (Royal Central), Munich, Goethe Strasse 70.

B. G. Teubner (also Theodor Hofmann's firm), Leipzig, Post Strasse 3.

E. F. Thienemann, Gotha.

Franz Vahlen, Berlin W. 8, Mohren Strasse 13—14.

L. von Vangerow, Bremerhaven.

Velhagen & Klasing, Bielefeld and Leipzig.

* **Verein** (Society) **for Promotion of Domestic Hygiene** (Verein für häusliche Gesundheitspflege), Berlin.

Friedrich Vieweg & Son, Brunswick, Vor der Burg 18.

Wilhelm Violet, Stuttgart, Johannes Strasse 58.

R. Voigtländer (Robert Voigtländer), Leipzig, Breitkopf Strasse 7.

Leopold Voss, Hamburg, Hohe Bleichen 34.

Waisenhaus-Verlag. Book-shop at Francke's Orphanage, Halle on the Saale.

J. J. Weber, Leipzig, Reudnitzer Strasse 1—7.

Weidmann's Publishing and Bookselling Firm (Dr. Ernst Vollert), Berlin SW. 12, Zimmer Strasse 94. (With the above firm that of Gärtner's Verlag [H. Heyfelder] has been incorporated.)

George Westermann, Brunswick, Breite Strasse 2.

* **Professor Wickenhagen,** Friedenau, Ring Strasse 7.

Wiegandt & Grieben, Berlin SW., Luckenwalder Strasse 1.

Winckelmann & Sons, Berlin S., Sebastian Strasse 34.

Hellmuth Wollermann, Brunswick, Bohl Weg 69.

Max Woywod, Breslau VIII, Kloster Strasse 3.

Ernst Wunderlich, Leipzig, Johannis Gasse 11.

* **Dr. Eduard Zache,** Teacher (Oberlehrer), Berlin O., Küstriner Platz 9.

H.

School Furniture and Classroom Appliances.

1. Model of a removable (upliftable) set of benches and desks for a class-room, constructed and exhibited by **Heinrich Brink,** specialist for complete school and gymnastic apparatus.

The upliftable interior furniture of the German schoolroom of 1904 renders possible a thorough hygienical cleaning of those portions of the floor which are immediately under the desks and forms, and is regarded as a great advance in the direction of School Hygiene, since, after the lifting up of the desks and forms, it is easy to remove the dust which collects under them, and which contains deleterious bacilli, whose prejudicial effects on the tender lungs of the school-children are thus prevented. The possibility of lifting up the benches and desks is obtained by their being connected into a compact whole by means of a scarcely visible, in no way inconvenient framework, which is raised by an inconspicuous winding apparatus, applied at four places in the sides of the schoolroom. When the desks and forms are to be lifted, they are changed into one single latticed truss (Gitterträger) by means of cross-stays (Verstrebungen) and the whole, now forming a perfectly rigid mass, is placed in connexion, at the four points, with steel-wire bands, and raised by a winding apparatus. The lifting of the entire mass can in this manner be performed without severe exertion by one person, or even by a schoolboy. The floor, being thus completely exposed, can now be cleaned without let or hindrance, and, as the desks and forms can be suspended at any desired height, the lower parts of

them can be better got at for cleaning purposes than when they occupy their normal position on the floor.

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2. Various models of School Furniture and School Utensils, exhibited by **P. Johannes Müller & Co.,** School furnishing company, Berlin S W., Hedemann Strasse 15.

1. A two-seated, turn-down "Rettig" School Desk, 80 × 120 cm. (Patent).
2. Model of a classroom at the Frieden Strasse school, Halle on the Saale. Architect Rehorst. Provided with "Rettig" school desks, teacher's desk with platform and chair, black-wall, blackboard on easel, school-cupboard, and wall decorations. One tenth of natural size, 95 × 65 cm.
3. Apparatus for measuring scholars: also plan for distribution of desks, founded on measurements of scholars (bound folio).
4. Series of models of the eight characteristic school-desk systems in $^1/_{10}$ of the natural size, about 65 × 50 cm.
5. A copy of the Periodical "Das Schulzimmer".

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3. Model of a free-standing school-blackboard made to be raised, lowered, or turned round in its framework. Exhibitor: **A. C. Lemcke,** Blackboard manufacturer, Cassel, Wolfhager Strasse 53.

This patent blackboard consists of a body specially prepared for the purpose, on which plates of metal are placed and fastened under high pressure by means of a never failing cement which unites all the parts to one solid whole. The presence of the metal plates prevents the parts of such a blackboard from moving or altering their shape. It is therefore impossible that it should warp, crack or become uneven. By the very ingenious combination of the various component parts, which supplement each other, and in particular by the employment of the already mentioned metal plates, a high degree of stability is attained in these blackboards.

The advantages of these boards (see also the Prospectus, Figure 5) are: —

1. Perfectly steady stand, so that it is impossible that they should fall.
2. The raising and lowering, as also the turning of the board is performed with perfect ease and safety. In turning, the board remains in its frame, only revolving on its axis.

3. As the board in turning remains in the frame and only swings with half its breadth, there is a considerable saving of room.

4. Model of a stand for hanging up Wall-maps, etc., made according to the instructions of Herr Liebig of the Gymnasium at Fraustadt (see Exhibit of the Royal Augusta Victoria Gymnasium at Posen, Section B, Kinds of Schools).

5. Map-stand "Ferror". Exhibited by **Friedrich Ebbecke,** publisher, Lissa in Posen, Markt 25.

6. Plessmann's **Picture-holder** with patent lever motion. Exhibited by the Munich School Appliances, **Wilhelm Plessmann,** Maximilian Platz 19, am Neutor.

The holder is for quick and convenient showing of large or small pictures, unmounted or mounted (but not on rollers). The placing of the picture between the two staves is extremely simple. The lever-pressure infallibly prevents the picture from falling out. By this apparatus the expense of mounting school pictures and diagrams may be avoided.

7. Models of Gymnastic Apparatus, placed together on a board (Wooden bars, iron bars, vaulting-horse, trapeze, ladder, jumping-boards and stands, storming-board, etc.). Exhibited by **Oswald Faber,** Manufacturer of gymnastic apparatus. Leipzig-Paunsdorf, Dresdener Strasse 24—26.

See: Section E, Exposition for Gymnastics, School Sport, and School Hygiene.

8. Model of the Gymnastic-Hall of the Public Elementary School at Steglitz near Berlin, Fichte Strasse. Exhibitor: **A. Buczilowsky,** Berlin W., Blumenthal Strasse 13.

See: Section E, Gymnastics, School Sport, etc.

In cases where this Special Catalogue does not give detailed information, the prospectuses and other printed forms which accompany the exhibits may be consulted, — also as regards prices and conditions. The Commissioner of the School Exhibition, Dr. L. Bahlsen, is likewise ready to give information.

Index.

A.

Abroad, higher German educational establishments. 49.
Adorant (Boy praying). 88.
Albrecht Dürer House (Sütterlin & Scholl), Berlin W., Kronen Strasse 18. 87.
Amthor's publishing house, Leipzig, Thal Strasse 5. 117, 125.
Anders, Richard, Prof., Sculptor, Berlin W., Kurfürsten Damm 130. 92.
Apparatus, physical, of the Berlin Elementary Schools. 112.
Aschendorff, Münster in Westphalia, Kloster Strasse 31—32. 125.
Asher, A., & Co., Berlin W., Unter den Linden 13. 125.

B.

Bahlsen, Dr., Berlin. 132.
Bähre, Headmaster, Realschule at Kreuznach. 44.
Bardt, Director Dr. C. 16.
Barmen. 96.
Barmen, the Municipal Reform Gymnasium at. 23.
Beck, C. H. (Oscar Beck), Munich, Wilhelm Strasse 9. 125.
Belser, Chr., Stuttgart, Augusten-Strasse 13. 125.
Berlin. 96.
Berlin, the Royal Joachimsthal Gymnasium (boarding-school) at. 14.
Berlin, second municipal Realschule, N., Weissenburger Strasse 4a. 48.
Berlin, the Royal Training-School for female teachers, and the Royal Augusta School, SW. 53.
Berlin, the 213th Municipal Elementary School (for girls), NO. 55, Christburger Strasse 18. 66.
Berlin, the 232nd Elementary School (for boys), SO. 36, Glogauer Strasse 16. 67.
Berlin Teachers' Union (K. Mertelsmann), Berlin N. 58, Tresckow Strasse 8. 125.
Berlin School Deputation (Book by the Municipal School Inspector Dr. Zwick). 125.
Berlin Society for Holiday Camps, Berlin N. 24, August Strasse 91. 125.
Bielefeld. 100.
Blind, institutions for the; statistics relating to the. 79.
Blind, education of the, in the German Empire. 75.

Bochum. 100.
Bochum, Oberrealschule Götter Strasse 6. 40.
Böhlau, Hermann, Successor, Weimar, Kleine Teich Gasse 6. 125.
Bonde, Oscar, Court bookseller, Altenburg. 125.
Bornträger, Brothers, Berlin SW. 11, Dessauer Strasse 29. 125.
Boerner, Director Dr. 27.
Böttcher, A., Objects of Natural History, and Appliances for Teaching, Berlin C., 2, Brüder Strasse 15. 115.
Boy praying. 88.
Boys' Handwork, German Union for, Leipzig, Scharnhorst Strasse 20. Training school for male teachers Scharnhorst Strasse 10. Director Dr. Pabst. 124, 125.
Brandstetter, Friedrich, Leipzig, Stephan Strasse 20. 125.
Breitkopf & Härtel, Leipzig, place of sale: Albrecht Dürer House. 88.
Brendel, R., Educational appliances, Grunewald near Berlin, Bismarck Allée 37. 116.
Breslau. 100.
Brink, Heinrich, Special factory for complete school and gymnastic apparatus. 130.
Buczilowsky, A., manufacturer of gymnastic apparatus, Berlin W., Blumenthal Strasse 13. 132.
Burgsteinfurt, the Royal (protestant) Boarding Training-School for female teachers, in the province of Westphalia. 61.

C.

Cadets Corps. (Military Schools). 31.
Candidates for places as teachers in higher schools, — placards and printed papers concerning their practical training. 5.
Cassel. 101.
Central Station of the Societies for Utilizing the Summer Season in Germany, Berlin W., Steinmetz Strasse 16. 125.
Charlottenburg. 101.
Chemnitz. 102.
Contents VIII.
Cotta, J. G., Successor, limited, Stuttgart and Berlin. Branch establishment Berlin SW. 12, Koch Strasse 53. 125.
Crüwell, W., Dortmund, Olpe Strasse 29. 125.

D.

Dalldorf, the Municipal Idiot Asylum of the city of Berlin. 83.
Darmstadt. 102.
Datum-Nienhöfen, One-class village school, in the province of Sleswick-Holstein. 68.
Deaf-and-Dumb, education of the, in Germany. 71.
Deaf-and-Dumb Institute (Royal Central), Munich, Goethe Strasse 70. 75.
Deipser, Prof. Dr., in Neuwied (Society for promoting games). 93.
Diesterweg, Moritz, Frankfort on the Main, Hoch Strasse 29. 126.
Dinges, Josef, teacher at Royal Training-School at Mindenheim (Bavaria). 120.
Drawing and Artistic Wall-decoration, exposition for. 85.
Drawing models. 87.

Dresden. 102.
Dürr (Otto Friedrich and Johannes Friedrich Dürr), Leipzig, Quer Strasse 14. 126.
Düsseldorf. 103.

E.

Ebbecke, Friedrich, publisher, Lissa in Posen, Markt 25. 119, 122, 132.
Ebbecke, Friedrich, Posen O. 1., Berliner Strasse 1. 126.
Educational Appliances and Books, Exposition of. 112.
Educational Appliances for Geometry and Arithmetic. 119.
Educational Appliances for Teaching Topography Geography Mathematical Geography, and Astronomy. 119.
Educational Appliances for Zoology, Anatomy, Botany, Mineralogy, and Technology. 115.
Education in the German Empire and in Prussia, 15 graphic representations (Wall-tables) of. 1.
Education, the lower grade. 64.
Eisleben. 103.
Elberfeld. 103.
Elberfeld, the town Realgymnasium, Aue 93. 104.
Elwert, N. G., Marburg (Hesse), Reit Gasse 7 and 9. 126.
"Emperor's Boys", two photographs of the. 93.
von Ende, Teacher. 68.

F.

Faber, Oswald, manufacturer of gymnastic apparatus, Leipzig-Paunsdorf, Dresdener Strasse 24–26. 93, 132.
Fechner, Wilhelm, Art photographer, Berlin W., Potsdamer Strasse 134a. 89.
Female Pupils, gymnasium courses for. 53.
Female Pupils in Germany, the higher education of. 50.
Fischer, Th. G., & Co., Cassel, Königstor 72 1/2. 118, 121.
Fischer, S. F., manufacture of toys &c. of wood at Oberseiffenbach in the Erzgebirge. 123.
Fischer's, Gustav, publishing house, Jena, Sellier Strasse 8. 118, 126.
Fischer's medical book-store (H. Kornfeld), Berlin W. 35, Lützow Strasse 10. 126.
Fock, Gustav, joint stock company, Leipzig, Schloss Gasse 7. 126.
Förster & Borries, Zwickau (Kingdom of Saxony). 126.
Frankfort on the Main. 104.
Frankfort on the Main, the Goethe Gymnasium, Hohenzollern Platz 52. 20.
Frankfort on the Main, the Reform Realgymnasium, "Model School". 24.
Frankfort on the Main, Gabelsberger Strasse 2, the municipal deaf-and-dumb school. 14.
Frankfort on the Main, Town Council. 94.
Frenzel, Fr., teacher at the municipal Auxiliary School, Stolp (Pomerania). 126.
Freytag, G., and Berndt, cartographic institute, Vienna VII, 1. Schottenfeld Gasse 64. 121.
Freytag, G., Leipzig, Brüder Strasse 23. 126.
Fricke, H., Inspector of schools at Hamburg. 93.

G.

Gänsemännchen 88.

Gebel, B. W. (Bruno Gebel), Gross-Lichterfelde West, Stern Strasse 49. 126.

Gebhardt, Paul, sons, Mathematical instrument makers and Opticians, Berlin school furnishing institute, Berlin C., Neue Schönhauser Strasse 6. 114.

Gelsenkirchen, Royal Landrat's Office. 93.

Gemeinde Schulen (Elementary schools) of Berlin. 64.

Genetat, Otto, Teacher, Friedrichshagen near Berlin, Ahorn Allée 23. 119.

Gerber, Augustus, Institute for classic sculptures, statues, busts, reliefs from the antique, the middle age, and the modern period. Cologne. 88.

Gerhardt, Oswald, Headmaster, Berlin NO. 18, Büsching Strasse 35. 126.

Gesenius, Hermann, Halle on the Saale, Mühlweg 34. 126.

Girls, Gymnasium-Courses for. 53.

Girls, the Higher Education of in Germany. 50.

Glombik, Director, Wongrowitz. 9.

Godesberg on the Rhine, the Protestant Pedagogium at. 36.

Göschen, G. J., Leipzig, Salomon Strasse 10. 126.

Gräfe & Sillem, Hamburg, Kaiser Wilhelm Strasse 82. 126.

Greiner, Ephraim, (Bieler, Greiner, and Kühn), Stützerbach in Thuringia, manufacture of scientific instruments, apparatus for elementary instruction in physics 115.

Gressler, F. G. L., Langensalza. 126.

Grethlein & Co., Leipzig, Dorotheen Strasse 2. 126.

Grote, G., Berlin SW. 11, Dessauer Strasse 18. 126.

Gsellius, Berlin, Mohren Strasse 52. 123.

Gusinde, Alois, School Rector, Berlin W., Mohren Strasse 41. 123.

Guths Muths monument in Quedlinburg. 92.

Guts Muths with his pupil Karl Ritter. 92.

Guttentag, J., joint stock company, Berlin W. 35, Lützow-Strasse 107--108. 126.

Gymnasium, the classical or humanistic (Normal system). 6.

Gymnastics, School-Sport and School-Hygiene, exposition for. 90.

H.

Haferlandt & Co., Wilhelm, Zoological Institute, Special Institute for nerve preparations and injections. Charlottenburg, Berliner Strasse 113; Berlin SW. Friedrich Strasse 6. 116.

Hamburg. 105.

Hannover. 105.

Hannover, Municipal Sophia School. 53.

Hauff, Albert, Berlin-Schöneberg, Cherusker Strasse 2. 119.

Hausmann & Latwesen, Cassel 87.

Heinrich, Traugott, Singing-master, Berlin NO. 43, Frieden Strasse 12. 126.

Heintze & Blanckertz, German steel-pen factory, Berlin NO., Georgenkirch Strasse 44. 119.
Herbig, Friedrich August, Berlin W. 35, Schöneberger Ufer 13. 126.
Herrosé, R. (H. Herrosé), Wittenberg, Reg. Bez. Halle a .S. 126.
Hesse, Max, Leipzig, Eilenburger Strasse 4. 126.
Hildesheim. 105.
Hillger, Hermann, Berlin W. 9, Königgrätzer Strasse 7. 126.
Hirt, Ferdinand, University bookseller and publisher, Breslau VI, Königs Platz 1. 88, 120, 122, 126.
Hirt, Ferdinand, & Son, Leipzig, Salomon Strasse 15. 127.
Hobbing & Büchle, publishers, Stuttgart, Paulinen Strasse 19 120.
Hölzel, Ed., publishing house, Vienna IV, 2, Luisen Gasse 5. 121, 122.
Hörde. 106.

I.

Idiots, education of. 81.
Illzach, near Mülhausen in Alsace. 81.
Intermediate School, the Prussian. 62.

J.

John the Baptist, statuette by Donatello 88.

K.

Kafemann's Publishing house, limited, Danzig (West Prussia), Ketterhager Gasse 4. 122, 127.
Kagerah's J., Institute for technological school appliances, Hamburg 19, von der Tann Strasse 8. 118.
"Kaiserjungen", 2 photographs of the. 93.
Kehrbach, Prof. Dr. Karl, Charlottenburg, Schiller Strasse 4. 127.
Kern, J. U., (Max Müller), Breslau II, Teich Strasse 8. 127.
Kesselring's Court book-selling and publishing firm (E. von Mayer), Frankfurt a. M. and Leipzig. 127.
Kinds of Schools, the various German, elucidated by the expositions of several establishments, chosen as typical. 6.
Kindt, Fritz, geographical institute, Steglitz near Berlin, Schildhorn Strasse 11. 120.
Klähr, pictures exhibited by Headmaster. 93.
Koehler's, K. F., Publishing house, Leipzig, Täubchen Weg 21. 122, 127.
Kohlrausch, Prof. Dr., in Hannover. 93.
Königsberg i. Pr. 106.
Königsberg, magistracy of the town of. 93.
Krantz, Dr. F., minerals, Bonn on the Rhine, Herwarth Strasse 36. 116, 120.
Kreisel, Dr., director of the Royal Training School at Ziegenhals. 58.
Kreuznach. 106.
Kreuznach, Realschule in the Hofgarten Strasse. 44.
Kühne, O., Headmaster. 37.
Kühtmann, Gerhard, Dresden-A., Albrecht Strasse 12. 127.

Kunz, M., director of the Blind Asylum at Illzach near Mülhausen in Alsace. 127.

L.

Landois, Hermann, Dr., University Professor, Münster inWestphalia, Zoological garden. 117, 127.

Lang, Georg, Cartographical institute and publishing house, Leipzig, Dresdener Strasse 11. 121.

von Lange, Emil, Director, measuring tables (for entering the growth of scholars). 94.

Langenscheidt (Prof. G. Langenscheidt), Berlin SW. 11, Hallesche Strasse 17. 127.

Lehmann, J. F., Munich, Heu Strasse 20. 127.

Leineweber,F.,Leipzig,Könneritz-Strasse 57. 127.

Leipzig. 106.

Leithäuser, J., Headmaster, Barmen. 23.

Lemcke, A. C., factory for school-blackboards, Kassel, Wolfhager Strasse 53. 131.

Leppin & Masche, scientific instrument makers, Berlin SO., Engel Ufer 17. 112.

Library, Pedagogical. 124.

Liebig, Teacher at the gymnasium at Fraustadt. 132.

Lion, Rudolf, Hof in Bavaria. 127.

Lorenz, Dr., Director. 94.

Lürssen, Fr., boat builder at Aumund-Bremen. 93.

M.

Mainz (Mayence). 107.

Maps and Atlases. 121.

Matthies, J., director of the Royal Blind Asylum at Steglitz. 80.

Meinhold and Sons, C. C., Royal Printing Office and Publishers of Educational Appliances, Dresden, Zinzendorf Strasse 29. 118, 120, 122, 127.

Meyer, Carl (Gustav Prior), Hannover, Celler Strasse 90a. 127.

Michaelis, Dr., Headmaster, Barmen. 24.

Military Schools. 31.

Ministry of ecclesiastical, educational, and medical affairs, Berlin. 1.

Mittler & Son, E. S., Royal Court Booksellers, Berlin SW. 12, Koch Strasse 68—71. 127.

Morgenstern, E., publisher, Breslau VI, Königs Platz 1. 122.

Muff, Chr., Prof. Dr. 14.

Müller-Fröbel-Haus, A., Vienna and Dresden. Institute for Educational Appliances, and publishing house, Dresden-A., Waisenhaus Strasse 24. 121, 123, 127.

Müller & Co., P. Johannes, School furnishing shops, Berlin SW., Hedemann Strasse 15. 87, 131

Munich. 107.

Munich (Bavaria), The Royal Central Deaf-and-Dumb Institute, Goethe Strasse 70. 75.

N.

Nägele, Erwin, Publisher, Stuttgart, Marien Gasse 31. 118, 127.

Nemnich, Otto, Wiesbaden, Schiersteiner Strasse 3. 127.

Neumann, August (Fr. Lucas), Leipzig, Quer Strasse 16. 127.

Nuremberg. 110.

O.

Ober - Realschule with nine classes. 38.

Oehmigke, L. (R. Appelius), Berlin NW. 7, Dorotheen Strasse 38—39. 127.

Oldenbourg, Martin (formerly A. Braun & Co.), Berlin SW., Friedrich Strasse 239. 127.

Oldenbourg, R., Munich. 127.

Orphanage publishing house (Waisenhaus Verlag) Halle a. S., Francke's Stiftungen. 88, 122, 129.

Otto, Berthold, Gross Lichterfelde, Holbein Strasse 25. 127.

P.

Pabst, Director, Dr., manager of the Leipzig Scholars' Workshop, Gustav Adolf Strasse 2. 128.

Pabst, Reinhold, book and music publisher, Delitzsch (Province of Saxony). 128.

Paetel, Hermann, Berlin W. 30, Elssholz Strasse 12. 128.

Pallat, Prof. Dr., Berlin. 89.

Persons wanting one or more of their senses, education and instruction of. 71.

Perthes, Friedrich Andreas, joint stock company, Gotha. 122.

Perthes, Justus, geographical institute and publishing-house, Gotha. 121.

Petersilie, A., Privy Councillor, Prof. Dr., in Berlin. 1.

Pforta in Thuringia (Province of Saxony), Royal Protestant School. 10.

Pichler's Widow & Son, A., Vienna V, 54, Margareten Platz 2. 128.

Pictures and Diagrams for Botany, Zoology, Anatomy, Mineralogy, and Geology. 117.

Pictures and Diagrams for Languages, Art, History, and Elementary Teaching. 121.

Piper, H., Educational Inspector at Dalldorf. 83.

Pippow, Brothers, Institute for natural history appliances, Berlin N.-Hermsdorf (Mark), Bahnhof Strasse 11. 117.

Plessmann, Wilhelm, Educational Appliances, Munich, Maximilian's Platz 19. 88, 119, 122. 128, 132.

Poets' Memorial Society, German. 125.

Pommerening, Lina, Fräulein, (Portrait-painter). Berlin W., Winterfeldt Strasse 7. 89.

Posen. 110.

Posen, the Royal Augusta Victoria Gymnasium. 9.

Preuss & Jünger (Artur Jünger), Breslau, Ring 52. 128.

Priebatsch, bookseller, Breslau, Ring 58. 123, 128.

Private pedagogium. 36.

Q.

Quedlinburg. 110.

Queen, Louise of Prussia, portrait of. 89.

R.

Real-Gymnasium (Normal system). 27.

Real-Schule with six classes. 41.

Real-Schule with the Berlin Curriculum. 45.

Reform-Gymnasium. 17.

Reform Real-Gymnasium. 20.

Reinhardt, Privy Councillor, headmaster of the Goethe-Gymnasium, Frankfort on the Main. 20.

Reinhardt, Prof. Dr., headmaster of the 2nd municipal Real-Schule at Berlin. 47.
Reisland, O. R., Leipzig, Karl Strasse 20. 128.
Renger's bookselling and publishing house: Gebhardt & Wilisch, Leipzig, Nostitz Strasse 5. 121, 128.
Rietz, E., Dr. med., Berlin W., Dennewitz Strasse 10. 128.
Rossberg, Artur, Leipzig, Frommann Strasse 4. 128.
Roth, Emil, Giessen, Marburger Strasse 20. 121, 122, 128.
Ruess, Max, sculptor and teacher, Ulm on the Danube, Weinhof 5. 123, 128.

S.

Saalburg, the. 122.
Schahl, Paul, Berlin S.O. 16, Neander Strasse 16. 128.
Schmidt, Dr., headmaster of the Sophia School at Hannover. 55.
Schmidt, Dr. med., F. A., Bonn on the Rhine, Koblenzer Strasse 23. 128.
Schmidt, Dr. med. J. A., Bonn on the Rhine. 93.
Schnetter, Moritz, Berlin W. 57, Steinmetz Strasse 36. 128.
Schoetz, Richard, Berlin N.W. 6, Luisen Strasse 36. 128.
Scholars' Workshop at Leipzig, Gustav Adolf Strasse 2 (director: Dr. Pabst). 124.
Scholz, Rector of the 213th Berlin Elementary School. 66.
School furniture, class-room requirements. 130.
Schulhaus Publishing Firm, Berlin-Tempelhof. 128.
School Map of Berlin. 4.
School Map of Prussia. 4.
School Maps of the German Empire, two. 4.
School rowing-boat, four-oared practising boat. 93.
Schools, the higher, without Latin and Greek. 38.
Schotte & Co., Ernst, geographical and artistic institute and publishing house, Berlin W., Potsdamer Strasse 41a. 119.
Schreiber, J. F., Educational Appliances and publishing-house, Esslingen near Stuttgart, and Munich. 88, 118, 120, 122, 128.
Seemann, E. A., Leipzig, Quer-Strasse 13. 88, 122.
Siegismund, Karl, Berlin S.W. 11, Dessauer Strasse 13. 128.
Sieke, K., Rendsburg. 128.
Siemenroth, Franz, Berlin W. 57, Dennewitz Strasse 2. 128.
Society for domestic sanitation. Central office: Berlin. 129.
Society for German Educational and School History (E. V.), Editor's office Berlin N.W. 40, Invaliden Strasse 57—62. 126.
Society for the diffusion of classic art in Berlin. Place of Sale: Albrecht Dürer House, Berlin W., Kronen Strasse 18. 88.
Spamer, Otto, Leipzig, Breitkopf Strasse 7. 128.
Springer, Julius, Berlin N., Monbijou Platz 3. 128.
Stalling, Gerhard, Oldenburg i. Gr. 128.
Stankiewicz, P., Printing office, Berlin SW., 11, Bernburger Strasse 14. 118.

Statistic Bureau at Berlin, Publications of the Royal. 4.
Statistic, Bureau, Royal, Berlin SW. 68, Linden Strasse 28. 128.
Statistical Information concerning the Universities, Colleges, and Schools of the German Empire in small book-form. 4.
Statistic tables, 25, in octavo concerning education in the German Empire and in Prussia. 3.
Statistic Wall-tables, 22, concerning education in the German Empire and in Prussia. 2.
Staude, Elwin (Erich Staude), Berlin W. 35, Potsdamer Strasse 122c. 128.
Steglitz near Berlin, The Royal Prussian Blind Asylum. 80.
Stettin. 111.
Stettin, the municipal Arndt Intermediate School for boys. 64.
Stettin, the first municipal Intermediate School for girls. 64.
Stolp (Pomerania). 111.
Stolp in Pomerania, the municipal auxiliary school (for children of weak intellect). 70.
Strassburg. 111.
Strassburg Printing office and Publishing house (formerly R. Schultz & Co.) Strassburg in Alsace. 129.
Strauch, Edward, Leipzig, Kreuz Strasse 23. 129.
Stuttgart. 111.
Swimmers' Union, German (Deutscher Schwimmverband), publishers of the "Schwimmer Zeitung", Charlottenburg 1, Berliner Strasse 102. 125.

T.

Teubner, B. G. (also Theodor Hofmann's publishing house), Leipzig, Post Strasse 3. 88. 129.
Thieme, Georg, publisher, Leipzig, Rabenstein Platz 2. 118.
Thienemann, E. F., Gotha. 129.
Towns, School Exposition of the German. 96.
Training-Schools for female teachers. 59.
Training-Schools for male teachers. 56.
Training-Schools for teachers of both sexes. 56.

V.

Vahlen, Franz, Berlin W. 8, Mohren Strasse 13/14. 129.
Vangerow, L. von, Bremerhaven. 129.
Vatter, J., Director, Frankfort on the Main. 74.
Velhagen and Klasing, publishers, Bielefeld and Leipzig. 121, 129.
Viergutz, Rector of the 232nd Berlin elementary school. 66.
Vieweg & Son, Friedrich, Brunswick, Vor der Burg 18. 129.
Violet, Wilhelm, Stuttgart, Johannes Strasse 58. 129.
Voigtländer, R. (Robert Voigtländer), Leipzig, Breitkopf Strasse 7. 88. 129.
Village School, the one-class. 68.
Voss, Leopold, Hamburg, Hohe Bleichen 34. 129.

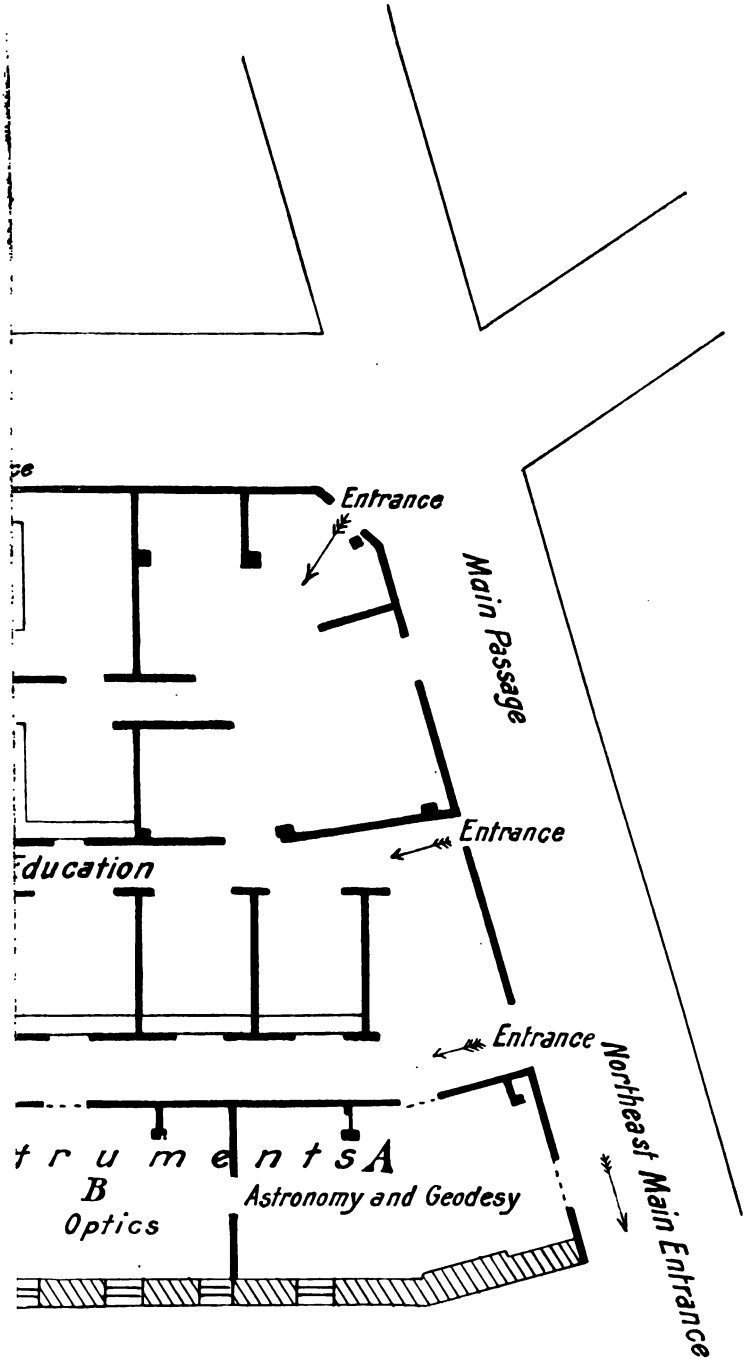
W.

Wachsmuth, F. E., publisher of art and school pictures, Leipzig, Kreuz Strasse 3. 88, 118, 120, 122.
Wagner, Günther, Hannover. 87.

Wagner, H., and E. Debes, booksellers and publishers, Leipzig, Nürnberger Strasse 46. 121.
Walter, Max, Headmaster Dr. 25.
Waterstraat, Rector of the First Intermediate School for girls at Stettin. 63.
Weber, J. J., Leipzig, Reudnitzer Strasse 1—7. 129.
Weidmann, Bookseller and publisher (Dr. Ernst Vollert), Berlin SW.12, Zimmer Strasse 94. 129.
Westermann, George, publisher, Brunswick, Breite Strasse 2. 121, 129.
Wickenhagen, Professor, Friedenau, Ring Strasse 7. 93, 95, 129.
Wiegandt & Grieben, Berlin SW., Luckenwalder Strasse 1. 129.
Winckelmann, G., Institute for Educational Appliances and bookstore, limited, Berlin SW., Friedrich Strasse 6. 117, 119, 121, 123.
Winckelmann & Sons, publishers, Berlin S., Sebastian Strasse 34. 122, 129.
Wollermann, Hellmuth, publisher, Brunswick, Bohl Weg 69. 121, 129.
Woltze, Peter, architectural painter. 122.
Wongrowitz (Province of Posen) the Royal Gymnasium. 9.
Woywod, Max, Breslau VIII, Kloster Strasse 3. 129.
Wunderlich, Ernst, Leipzig, Johannis Gasse 11. 129.
Wychgram, Headmaster Prof. Dr. 52.

Z.

Zache, Eduard, Dr., Berlin O., Küstriner Platz 9. 118, 129.
Ziegenhals in the province of Silesia, the Royal (catholic) Training-School for male teachers. 59.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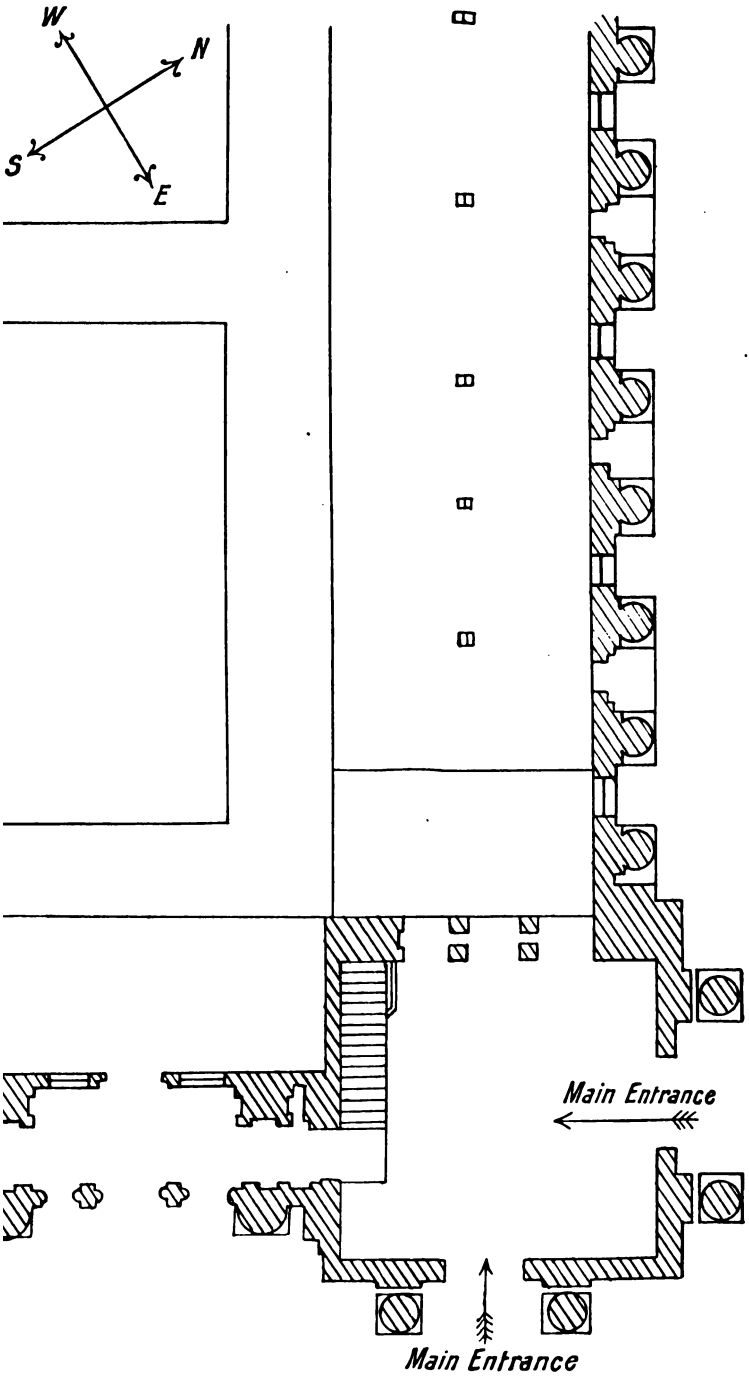
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